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FPC58-0437-02

B5FH-2031-02EN-00

DECLARATION OF CONFORMITY

according to FCC Part 15

Responsible Party Name:	Fujitsu PC Corporation
Address:	5200 Patrick Henry Drive
	Santa Clara, CA 95054
Telephone:	(408) 982-9500
Declares that product:	Model Configuration: LifeBook B-2175
	Complies with Part 15 of the FCC Rules.

This device complies with Part 15 of the FCC rules. Operations are subject to the following two conditions: (1) This device must not be allowed to cause harmful interference, (2) This device must accept any interference received, including interference that may cause undesired operation.

CAUTION

Changes or modifications not expressly approved by Fujitsu PC Corporation could void this user's authority to operate the equipment.

FCC NOTICES

Notice to Users of Radios and Television

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet that is on a different circuit than the receiver.
- Consult the dealer or an experienced radio/TV technician for help.

Shielded interconnect cables must be employed with this equipment to ensure compliance with the pertinent RF emission limits governing this device.

Notice to Users of the US Telephone Network

Your Fujitsu LifeBook may be supplied with an internal modem which complies with Part 68 of the FCC rules. On this LifeBook is a label that contains the FCC Registration Number and the Ringer Equivalence Number (REN) for this equipment among other information. If requested, the user must provide their telephone company with the following information:

1. The telephone number to which the LifeBook is connected.
2. The Ringer Equivalence Number (REN) for this equipment.
3. That the equipment requires a standard modular jack type USOC RJ-11C which is FCC Part 68 compliant.
4. The FCC Registration Number.

This equipment is designed to be connected to the telephone network or premises wiring using a standard modular jack type USOC RJ-11C which is FCC Part 68 compliant and a line cord between the modem and the telephone network with a minimum of 26AWG.

The REN is used to determine the number of devices that you may connect to your telephone line and still have all of those devices ring when your number is called. Too many devices on one line may result in failure to ring in response to an incoming call. In most, but not all, areas the sum of the RENs of all of the devices should not exceed five (5). To be certain of the number of devices you may connect to your line, as determined by the RENs, contact your local telephone company.

If this equipment causes harm to the telephone network, your telephone company may discontinue your service temporarily. If possible, they will notify you in advance. If advance notice is not practical they will notify you as soon as possible. You will also be advised of your right to file a complaint with the FCC.

This fax modem also complies with fax branding requirements per FCC Part 68.

Your telephone company will probably ask you to disconnect this equipment from the telephone network until the problem is corrected and you are sure that the equipment is not malfunctioning. This equipment may not be used on coin-operated telephones provided by your telephone company. Connection to party lines is subject to state tariffs. Contact your state's public utility commission, public service commission or corporation commission for more information.

This equipment includes automatic dialing capability. When programming and/or making test calls to emergency numbers:

- Remain on the line and briefly explain to the dispatcher the reason for the call.
- Perform such activities in off-peak hours, such as early morning or late evening.

FCC rules prohibit the use of non-hearing aid compatible telephones in the following locations or applications:

- All public or semipublic coin-operated or credit card telephones.
- Elevators, highways, tunnels (automobile, subway, railroad or pedestrian) where a person with impaired hearing might be isolated in an emergency.
- Places where telephones are specifically installed to alert emergency authorities such as fire, police or medical assistance personnel.
- Hospital rooms, residential health care facilities, convalescent homes and prisons.
- Workstations for the hearing impaired.
- Hotel, motel or apartment lobbies.
- Stores where telephones are used by patrons to order merchandise.
- Public transportation terminals where telephones are used to call taxis or to reserve lodging or rental cars.
- In hotel and motel rooms as at least ten percent of the rooms must contain hearing aid compatible telephones or jacks for plug-in hearing aid compatible telephones which will be provided to hearing impaired customers on request.

DOC (INDUSTRY CANADA) NOTICES

Notice to Users of Radios and Television

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

CET appareil numérique de la class B respecte toutes les exigence du Réglement sur le matérial brouilleur du Canada.

Notice to Users of the Canadian Telephone Network

The Canadian Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational, and safety requirements. The Department does not guarantee the equipment will operate to the user's satisfaction.

Fujitsu LifeBook computers are supplied with an internal modem which complies with the Industry Canada certification standards for telecommunication network protection and safety requirements. Before connecting this equipment to a telephone line the user should ensure that it is permissible to connect this equipment to the local telecommunication facilities. The user should be aware that compliance with the certification standards does not prevent service degradation in some situations.

Repairs to telecommunication equipment should be made by a Canadian authorized maintenance facility. Any repairs or alterations not expressly approved by Fujitsu PC Corporation or any equipment failures may give the telecommunication company cause to request the user to disconnect the equipment from the telephone line.

The connecting arrangement code for this equipment is CA11A.

The Load Number assigned to each telephone terminal device denotes the percentage of the total load to be connected to a telephone loop or circuit which is used by the device to prevent overloading. The termination on a loop may consist of any combination of devices such that the total of the load numbers of all devices does not exceed 100.

CAUTION

For safety, users should ensure that the electrical ground of the power utility, the telephone lines and the metallic water pipes are connected together. Users should NOT attempt to make such connections themselves but should contact the appropriate electric inspection authority or electrician. This may be particularly important in rural areas.

Avis Aux Utilisateurs Du Réseau Téléphonique Canadien

L'étiquette canadienne Industrie Canada identifie l'équipement certifié. Cette certification signifie que l'équipement satisfait certaines normes de protection, d'exploitation et de sécurité des réseaux de télécommunications. Le département ne garantit pas le fonctionnement de l'équipement à la satisfaction de l'utilisateur.

La série LifeBook™ e possède un modem interne conforme aux normes de certification d'Industrie Canada pour protéger les réseaux de télécommunications et satisfaire aux normes de sécurité. Avant de connecter cet équipement à une ligne téléphonique, l'utilisateur doit vérifier s'il est permis de connecter cet équipement aux installations de télécommunications locales. L'utilisateur est averti que même la conformité aux normes de certification ne peut dans certains cas empêcher la dégradation du service.

Les réparations de l'équipement de télécommunications doivent être eVectuées par un service de maintenance agréé au Canada. Toute réparation ou modification, qui n'est pas expressément approuvée par Fujitsu PC Corporation, ou toute défaillance de l'équipement peut entraîner la compagnie de télécommunications à exiger que l'utilisateur déconnecte l'équipement de la ligne téléphonique.

Le code d'arrangement de connexion de cet équipement est CA11A.

Le numéro de charge assigné à chaque terminal téléphonique indique le pourcentage de la charge totale pouvant être connecté à une boucle ou à un circuit téléphonique, utilisé par ce périphérique afin de prévenir toute surcharge. La terminaison d'une boucle peut être constituée de n'importe quelle combinaison de périphériques de sorte que le total de numéros de charge de tous les périphériques n'excède pas 100.

AVERTISSEMENT

Pour assurer la sécurité, les utilisateurs doivent vérifier que la prise de terre du service d'électricité, les lignes télphoniques et les conduites d'eau métalliques sont connectées ensemble. Les utilisateurs NE doivent PAS tenter d'établir ces connexions eux-mêmes, mais doivent contacter les services d'inspection d'installations électriques appropriés ou un électricien. Ceci peut être particulièrement important en régions rurales.

UL Notice

This unit requires an AC adapter to operate. Use only UL Listed Class 2 Adapters with an output rating of 16Vdc, with a current of 2.5A.

AC Adapter output polarity:

CAUTION

To reduce the risk of fire, use only #26 AWG or larger telecommunications line cord.

For Authorized Repair Technicians Only

CAUTION

For continued protection against risk of fire, replace only with the same type and rating fuse.

CAUTION

Danger of explosion if Lithium (clock) battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instruction.

Fujitsu LifeBook B Series Notebook
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1 Preface

Preface

ABOUT THIS GUIDE

The LifeBook™ B Series notebook from Fujitsu PC Corporation is a powerful mini-notebook computer. It is powered by an Intel® Celeron™ microprocessor, has a built-in color touch screen display, and brings the computing power of desktop personal computers (PCs) to a portable environment.

This manual explains how to operate your LifeBook's hardware and built-in system software. Your LifeBook is compatible with the IBM® PC AT.

It comes with Windows® 98 Second Edition or Windows® 2000 Professional pre-installed.

Your LifeBook is a completely self-contained unit with an active-matrix (TFT) color LCD display. It has a powerful interface that enables it to support a variety of optional features.

Conventions Used in the Guide

Keyboard keys appear in brackets.
Example: [Fn], [F1], [Esc], [Enter] and [Ctrl].

Pages with additional information about a specific topic are cross-referenced within the text.
Example: *(See page xx.)*

On screen buttons or menu items appear in bold
Example: Click **OK** to restart your LifeBook.

DOS commands you enter appear in Courier type.
Example: `Shutdown the computer?`

POINT

The point icon highlights information that will enhance your understanding of the subject material.

CAUTION

The caution icon highlights information that is important to your safety, to the safe operation of your computer, or to the integrity of your files. Please read all caution information carefully.

WARNING

The warning icon highlights information that can be hazardous to either you, your LifeBook, or your files. Please read all warning information carefully.

FUJITSU PC CONTACT INFORMATION

Service and Support

You can contact Fujitsu Service and Support the following ways:

- Toll free: 1-800-8FUJITSU (1-800-838-5487)
- Fax: 1-901-259-5700
- E-mail: 8fujitsu@fujitsupc.com
- Web site: http://www.fujitsupc.com

Before you place the call, you should have the following information ready so that the customer support representative can provide you with the fastest possible solution:

- Product name
- Product configuration number
- Product serial number
- Purchase date
- Conditions under which the problem occurred
- Any error messages that have occurred
- Hardware configuration
- Type of device connected, if any

Fujitsu On-line

You can go directly to the on-line Fujitsu Product catalog for your LifeBook by clicking on the LifeBook Accessories Web site URL link, located in the Windows Start menu.

You can also reach Fujitsu Service and Support on-line by clicking on the Fujitsu Service and Support Web site URL link, located in the Service and Support Software folder of the Windows Start menu.

POINT

You must have an active internet connection to use the on-line URL links.

WARRANTY

Your LifeBook is backed by a one year International Limited Warranty and includes toll-free technical support. Check the service kit that came with your LifeBook for warranty terms and conditions.

2
Getting to Know Your LifeBook

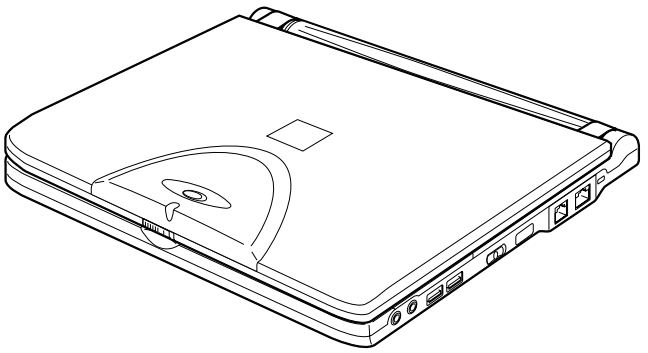


Figure 2-1 Fujitsu LifeBook B Series

Overview

This section describes the components of your Fujitsu LifeBook B Series notebook. We strongly recommend that you read it before using your LifeBook – even if you are already familiar with notebook computers.

UNPACKING

When you receive your LifeBook, unpack it carefully, and compare the parts you have received with the items listed below.

For a pre-configured model you should have:

- LifeBook B-Series notebook *(Figure 2-1)*
- Two 3-cell Lithium ion batteries (one pre-installed)
- AC adapter with AC power cord *(Figure 2-2)*
- Port Replicator *(Figure 2-3)*
- External USB Floppy Disk Drive *(Figure 2-4)*
- Phone/Modem (RJ-11) telephone cable
- Driver and Application Restore CD
- Getting Started Guide
- User's Guide (this document)
- International Limited Warranty Brochure
- Microsoft Windows Manual and Certificate of Authenticity
- First Cabin Registration card and envelope

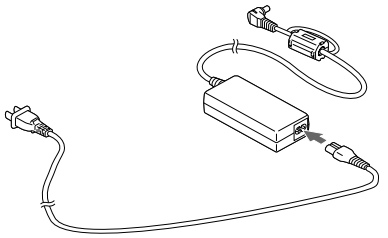


Figure 2-2 AC Adapter

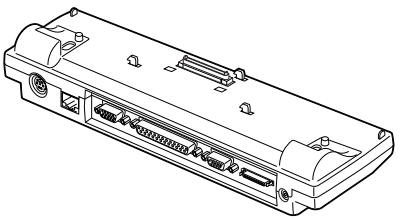


Figure 2-3 Port Replicator

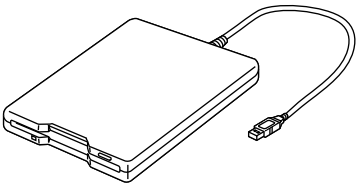


Figure 2-4 External Floppy Disk Drive

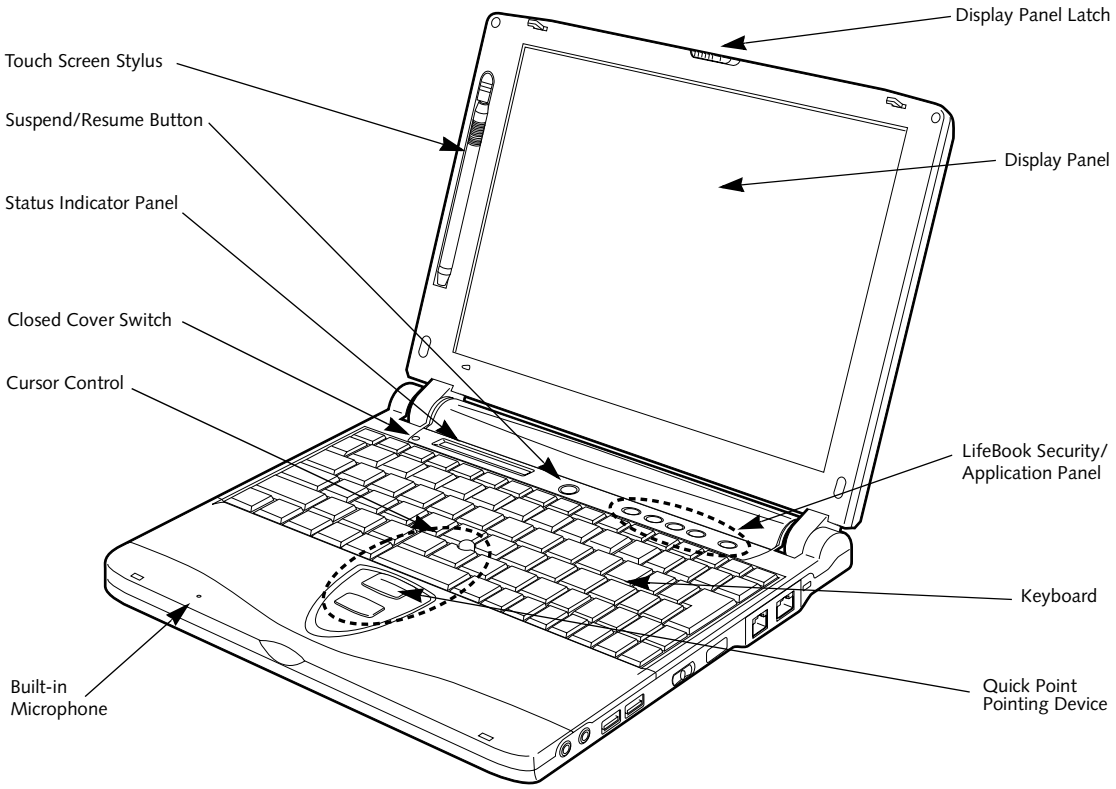


Figure 2-5 LifeBook with display open

Locating the Controls and Connectors

TOP AND FRONT COMPONENTS

The following is a brief description of your LifeBook's top and front components.

Touch Screen Stylus

The stylus is used as the pointing device for the touch screen. *(Figure 2-5)*

Closed Cover Switch

The closed cover switch turns off the LCD back lighting when the display panel is closed. *(Figure 2-5)*

Suspend/Resume Button

The Suspend/Resume button allows you to suspend LifeBook activity without powering off, resume your LifeBook from suspend mode, and power on your LifeBook when it has been shut down from the Windows operating system. *(Figure 2-5)* See "Suspend/Resume Button" on page 32.

Status Indicator Panel

The Status Indicator Panel displays symbols that correspond with a specific component of your LifeBook. *(Figure 2-5)* See "Status Indicator Panel" on page 13.

Display Panel Latch

The display panel latch locks and releases the display panel. *(Figure 2-5)*

LifeBook Security/Application Panel

The LifeBook Security/Application Panel provides hardware security and one-touch application launch capability. *(Figure 2-5)* See "LifeBook Security/Application Panel" on page 23.

Quick Point Pointing Device

The Quick Point pointing device consists of two mouse-like buttons and one cursor control button. *(Figure 2-5)* See "Quick Point Pointing Device" on page 17.

Keyboard

A full-function keyboard with dedicated Windows keys. *(Figure 2-5)* See "Keyboard" on page 15.

Built-in Microphone

The built-in microphone allows mono audio input. *(Figure 2-5)*

Display Panel

The display panel is a color LCD panel with back lighting for the display of text and graphics and Touch Screen functionality. *(Figure 2-5)*

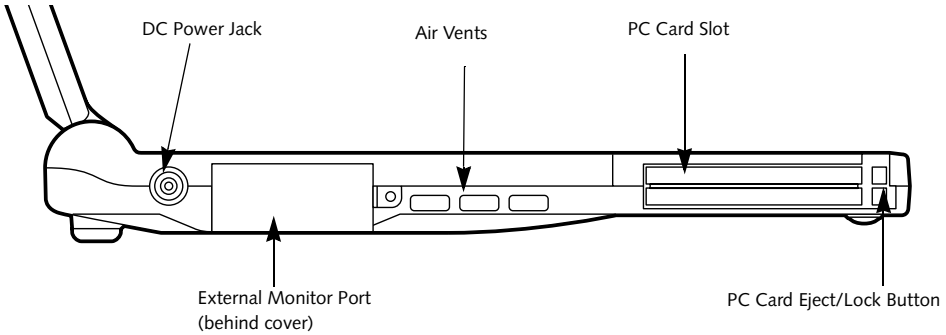


Figure 2-6 LifeBook left-side panel

LEFT-SIDE PANEL COMPONENTS

Following is a brief description of your LifeBook's left-side components.

DC Power Jack

The DC power jack allows you to plug in the AC adapter or the optional Auto/Airline adapter to power your LifeBook and charge the internal Lithium ion Battery. *(Figure 2-6)*

External Monitor Port

The external monitor port allows you to connect an external VGA or SVGA CRT monitor. Note that when the Port Replicator is attached to the system, you must use the external monitor port on the Port Replicator rather than the port on the system. *(Figure 2-7)* See "External Monitor Port" on page 47.

PC Card Slot

The PC Card Slot allow you to install two Type II or one Type III PC Card. *(Figure 2-6)* See "PC Cards" on page 40.

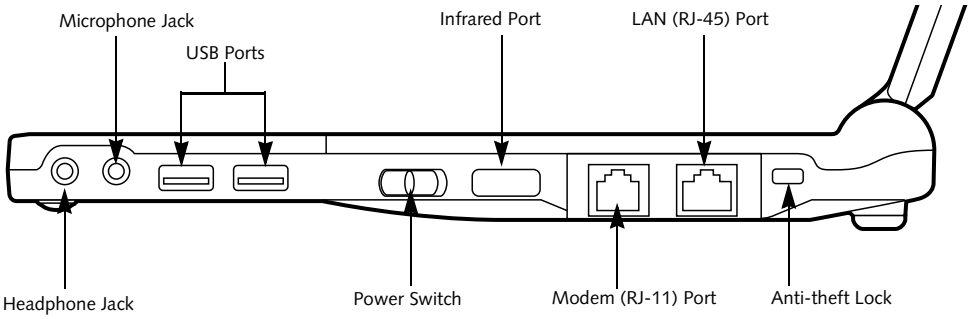


Figure 2-7 LifeBook right-side panel

RIGHT-SIDE PANEL COMPONENTS

Following is a brief description of your LifeBook's right-side components.

Headphone Jack

The headphone jack allows you to connect headphones or powered external speakers. *(Figure 2-7)* See "Headphone Jack" on page 47.

Microphone Jack

The microphone jack allows you to connect an external mono microphone. *(Figure 2-7)* See "Microphone Jack" on page 47.

Power Switch

This switch is the main power switch for your LifeBook. *(Figure 2-7)*

USB Ports

The two USB ports allow you to connect Universal Serial Bus devices. *(Figure 2-7)* See "Universal Serial Bus Port" on page 47.

Infrared Port

The fast IrDA compatible port allows you to communicate with another IrDA compatible infrared device without a cable. *(Figure 2-6)*

Modem (RJ-11) Telephone Port

The Modem (RJ-11) telephone port is for attaching a telephone line to the internal multinational 56K modem. *(Figure 2-6)*

WARNING

The internal multinational modem is not intended for use with Digital PBX systems. Do not connect the internal modem to a Digital PBX as it may cause serious damage to the internal modem or your entire LifeBook. Consult your PBX manufacturer's documentation for details. Some hotels have Digital PBX systems. Be sure to find out BEFORE you connect your modem.

POINT

The internal modem is designed to the ITU-T V.90 standard. Its maximum speed of 53000bps is the highest allowed by FCC, and its actual connection rate depends on the line conditions. The maximum speed is 33600bps at upload.

LAN (RJ-45) Port

The internal LAN (RJ-45) port is used for an internal Fast Ethernet (10/100 Base-T/Tx) connection. *(Figure 2-6)* See "Internal LAN (RJ-45) Port" on page 46.

Anti-theft Lock Slot

The anti-theft lock slot allows you to attach a optional physical lock down device. *(Figure 2-7)*

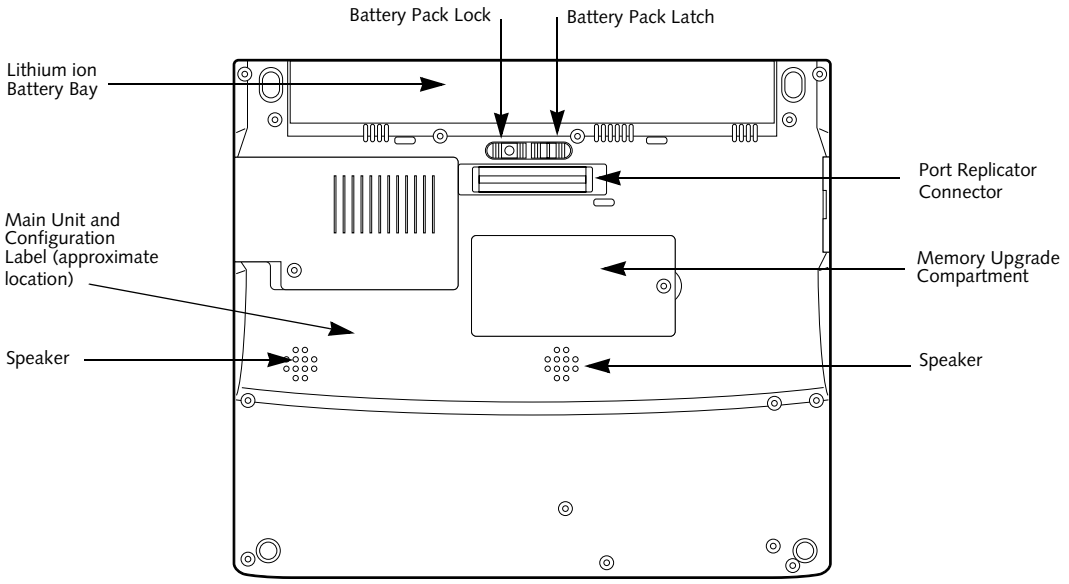


Figure 2-8 LifeBook bottom panel

BOTTOM COMPONENTS

Following is a brief description of your LifeBook's bottom panel components.

Lithium ion Battery Bay

The battery bay contains the internal Lithium ion battery. It can be opened for the removal of the battery when stored over a long period of time or for swapping a discharged battery with a charged Lithium ion battery. *(Figure 2-8)* See "Lithium ion Battery" on page 37.

Stereo Speakers

The built-in dual speakers allow for stereo sound. *(Figure 2-8)*

Port Replicator Connector

This connector allows you to connect the Port Replicator. *(Figure 2-8)*

Main Unit and Configuration Label

The configuration label shows the model number and other information about your LifeBook. In addition, the configuration portion of the label has the serial number and manufacturer information that you will need to give your support representative. It identifies the exact version of various components of your LifeBook. *(Figure 2-8)*

Memory Upgrade Compartment

Your LifeBook comes with high speed Synchronous Dynamic RAM (SDRAM). The memory upgrade compartment allows you to expand the system memory capacity of your LifeBook, hence improving overall performance. *(Figure 2-8)* See "Memory Upgrade Module" on page 42.

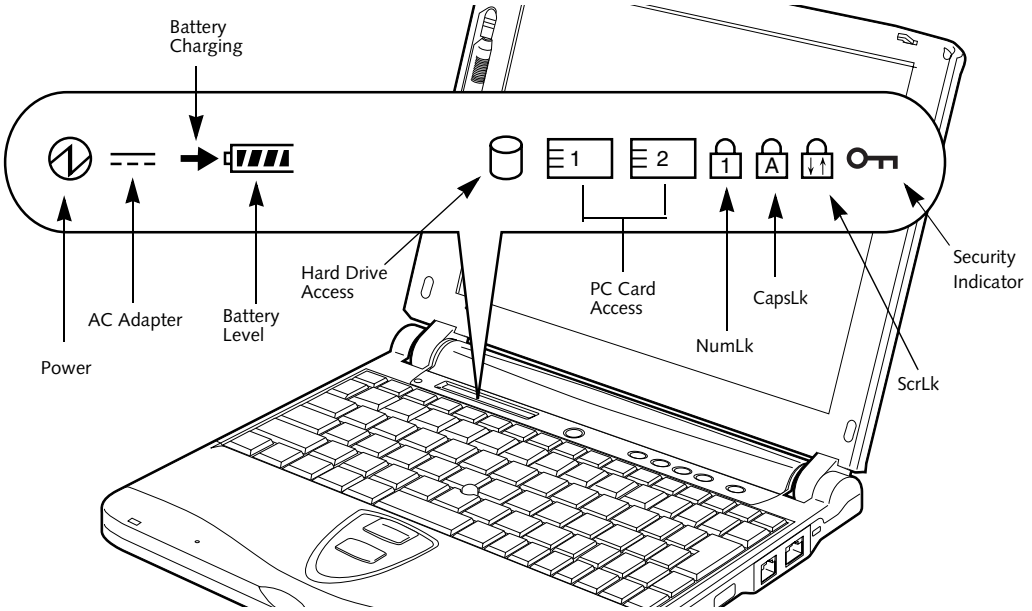


Figure 2-9 Status Indicator Panel

Status Indicator Panel

The Status Indicator displays symbols that correspond with a specific component of your LifeBook. These symbols tell you how each of those components are operating. *(Figure 2-9)*

POWER INDICATOR

The Power indicator symbol states whether your system is operational. It has several different states, each of which tells you what mode your LifeBook is in at that time.

- Steady On: This means that there is power to your LifeBook and that it is ready for use.
- Flashing: This means that your LifeBook is in Suspend mode.
- Steady Off: This means that your system is either in Save-to-Disk mode, or that your LifeBook has been turned off with the power switch.

If you are charging your battery, the Power indicator symbol will remain on even if your LifeBook is shut off. The Power indicator symbol will also remain on if you have either adapter connected and are shut down from Windows, but have not turned off the power switch.

AC ADAPTER INDICATOR

The AC Adapter indicator states whether your LifeBook is operating from the AC adapter, the Auto/Airline adapter or the batteries. This icon has two different states that can tell you what power source your LifeBook is using.

- On: This means that either of the adapters are currently in use.
- Off: Power is only coming from the batteries, and you do not have an adapter connected.

BATTERY LEVEL INDICATORS

The Battery Level indicators state whether or not the primary Lithium ion battery is installed. In addition, this symbol states how much charge is available within the installed battery. The symbol will only be displayed for a battery that is currently installed in your LifeBook. *(Figure 2-10)*

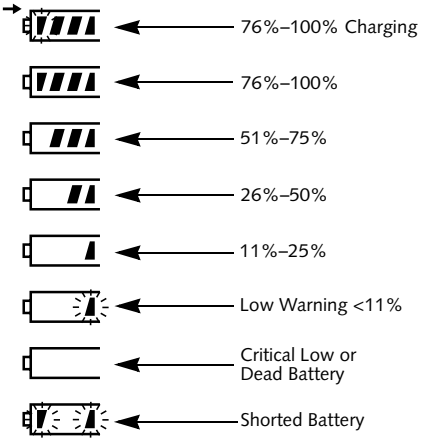


Figure 2-10 Battery Level Indicator

CAUTION

A shorted battery is damaged and must be replaced. *(Figure 2-10)*

POINT

If there is no battery activity, the power adapters are not connected, and the power switch is Off, the Battery Level indicators will also be off.

BATTERY CHARGING INDICATORS

Located to the left of the Battery Level indicator is a small arrow symbol. This symbol states whether the battery is charging. This indicator operates whether the power switch is in the On or Off position, and will flash if the battery is too hot or cold to charge.

CAUTION

Batteries subjected to shocks, vibration or extreme temperatures can be permanently damaged.

HARD DRIVE OR REMOVABLE MEDIA DRIVE ACCESS INDICATOR

The Hard Drive Access indicator states whether your internal hard drive.

PC CARD ACCESS INDICATORS

The PC Card Access indicator states whether or not your LifeBook is accessing a PC Card. The indicator will flash if your software tries to access a PC Card even if there is no card installed. *See "PC Cards" on page 40.*

NUMLK INDICATOR

The NumLk indicator states that the internal keyboard is set in ten-key numeric keypad mode.

POINT

If you are using the optional external numerical keypad, pressing the [NumLk] key will activate the external keypad. The indicator will come on, however it will not change any of the functionality of your keyboard keys.

CAPSLOCK INDICATOR

The CapsLock indicator states that your keyboard is set to type in all capital letters.

SCRLK INDICATOR

The ScrLk indicator states that your scroll lock is active.

SECURITY INDICATOR

The Security Indicator flashes (if a password was set) when the system resumes from Off or Suspend modes. You must enter the password that was set in the Security Panel before your system will resume operation.

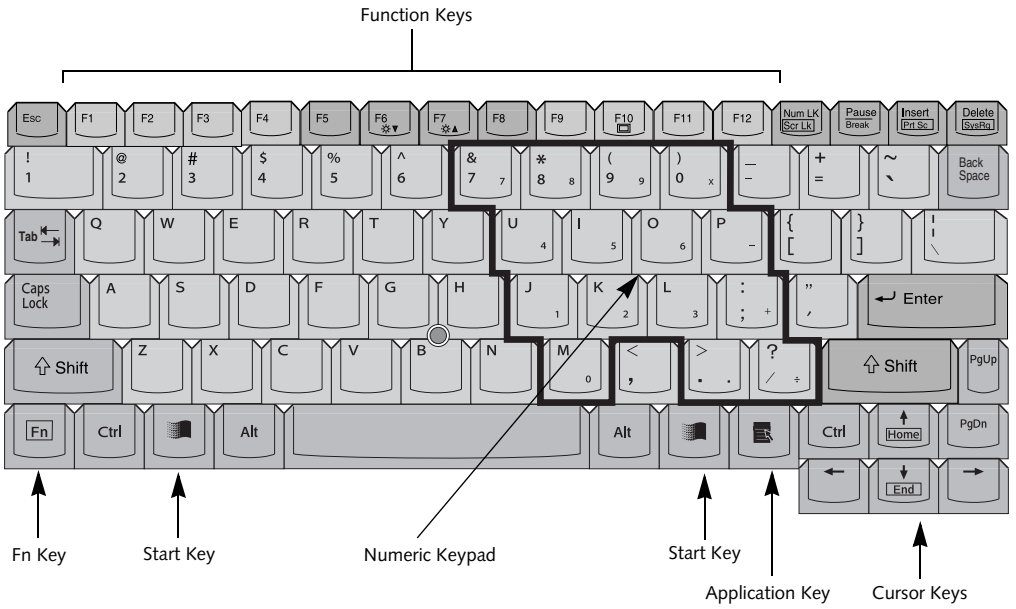


Figure 2-11 Keyboard

Keyboard

USING THE KEYBOARD

Your LifeBook has an integral 83-key keyboard. The keys perform all the standard functions of a 101-key keyboard, including the Windows keys and other special function keys. This section describes the following keys. *(Figure 2-11)*

- Numeric keypad: Your LifeBook allows certain keys to serve dual purposes, both as standard characters and as numeric and mathematical keys. The ability to toggle between the standard character and numerical keys is controlled through the [NumLk] key.
- Cursor keys: Your keyboard contains four arrow keys for moving the cursor or insertion point to the right, left, up, or down within windows, applications and documents.
- Function keys: The keys labeled [F1] through [F12], are used in conjunction with the n][Fn] key to produce special actions that vary depending on what program is running.
- Windows keys: These keys work with your Windows operating system and function the same as the onscreen Start menu button, or the right button on your pointing device.

NUMERIC KEYPAD

Certain keys on the keyboard perform dual functions as both standard character keys and numeric keypad keys. NumLk can be activated by pressing the [NumLk] keys. Turning off the NumLk feature is done the same way. Once this feature is activated you can enter numerals 0 through 9, perform addition (+), subtraction (-), multiplication (*), or division (/), and enter decimal points (.) using the keys designated as ten-key function keys. The keys in the numeric keypad are marked on the front edge of the key to indicate their secondary functions. *(Figure 2-11)*

POINT

If you are using the optional external numerical keypad, pressing the [NumLk] key will activate the external keypad. The indicator will come on, however it will not change any of the functionality of your keyboard keys.

WINDOWS KEYS

Your LifeBook has three Windows keys: two Start keys and an Application key. The two Start keys display the Start menu. This button functions the same as your onscreen Start menu button. The Application key functions the same as your right mouse button and displays shortcut menus for the selected item. (Please refer to your Windows documentation for additional information regarding the Windows keys.) *(Figure 2-11)*

CURSOR KEYS

The cursor keys are the four arrow keys on the keyboard which allow you to move the cursor up, down, left and right in applications. In programs such as Windows Explorer, it moves the "focus" (selects the next item up, down, left, or right). *(Figure 2-11)*

FUNCTION KEYS

Your LifeBook has 12 function keys, F1 through F12. The functions assigned to these keys differ for each application. You should refer to your software documentation to find out how these keys are used. *(Figure 2-11)*

[Fn] Key

The [Fn] key provides extended functions for the LifeBook and is always used in conjunction with another key.

- [FN+F3]: Pressing [F3] while holding [FN] will toggle the Audio Mute on and off.
- [FN+F4]: Pressing [F4] while holding [FN] will toggle the internal pointing device on and off.
- [Fn +F5]: Pressing [F5] while holding [Fn] allows you to toggle between video compensation and no compensation. (Video compensation controls spacing on the display. When it is enabled, displays with less than 1024 x 768 or 800 x 600 pixel resolution will still cover the entire screen.)
- [Fn+F6]: Pressing [F6] repeatedly while holding [Fn] will lower the brightness of your display.
- [Fn+F7]: Pressing [F7] repeatedly while holding [Fn] will increase the brightness of the display.
- [FN+F8]: Pressing [F8] repeatedly while holding [FN] will decrease the volume of your LifeBook.
- [FN+F9]: Pressing [F9] repeatedly while holding [FN] will increase the volume of your LifeBook.
- [Fn+F10]: Pressing [F10] while holding [Fn] allows you to change your selection of where to send your display video. Each time you press the combination of keys you will step to the next choice. The choices, in order, are: built-in display panel only, both built-in display panel and external monitor or external monitor only.

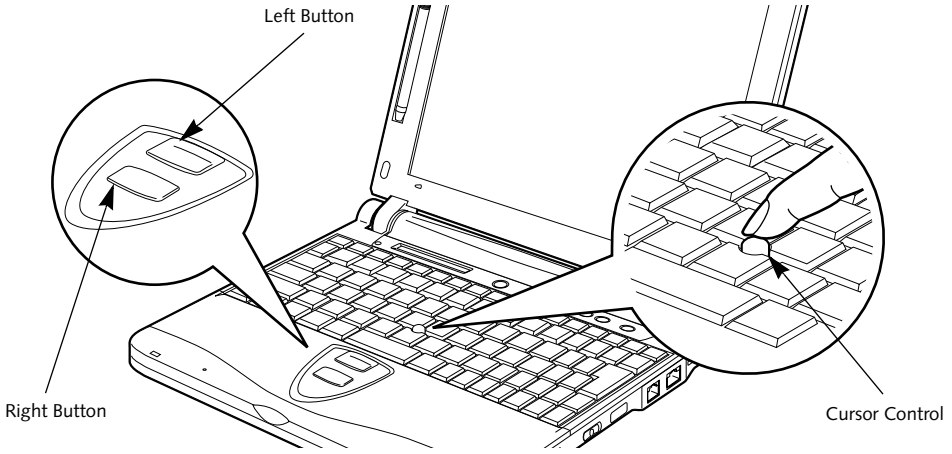


Figure 2-12 Quick Point pointing device

Quick Point Pointing Device

The Quick Point is built into your LifeBook. It is used to control the movement of the cursor to select items on your display panel. The Quick Point is composed of a cursor control at the center of the keyboard and two buttons on the palm rest of your LifeBook. The cursor control works the same way a mouse ball does, and moves the cursor around the display. It only requires light pressure with the tip of your finger, and the more pressure you use, the faster the cursor will move. The upper button functions the same as a left mouse button while the lower button has the same function as a right mouse button. The actual functionality of the buttons may vary depending on the application that is being used. *(Figure 2-12)*

POINT

You have the option of using any two of the following pointing devices at any given time; Quick Point, touch screen or external PS/2 mouse. *See "BIOS Setup Utility" on page 29.*

Clicking

Clicking means pushing and releasing a button. To left-click, move the cursor to the item you wish to select, press the top button once, and then immediately release it. To right-click, move the cursor to the item you wish to select, press the bottom button once, and then immediately release it. *(Figure 2-13)*

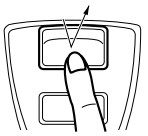


Figure 2-13 Clicking

Double-Clicking

Double-clicking means pushing and releasing the top button twice in rapid succession. This procedure does not function with the right button. To double-click, move the cursor to the item you wish to select, press and release the top button twice. *(Figure 2-14)*

Figure 2-14 Double-clicking

CAUTION

If the interval between clicks is too long, the double-click will not be executed.

POINT

Parameters for the Quick Point can be adjusted from the Mouse Properties dialog box located in the Windows Control Panel.

Dragging

Dragging means pressing and holding the top button, while moving the cursor. To drag, move the cursor to the item you wish to move. Press and hold the top button while moving the item to its new location and then release it. *(Figure 2-15)*

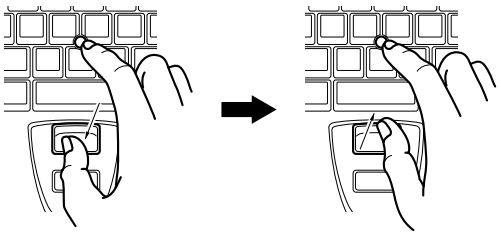


Figure 2-15 Dragging

Quick Point Device Control Adjustment

The Windows Control Panel allows you to customize your Quick Point with selections made from within the Mouse Properties dialog box. There are three aspects of Quick Point operation, which you can adjust:

- Buttons: This tab lets you set up the buttons for right or left handed operation, in addition to setting up the time interval allowed between clicks in double-clicking.
- Pointers: This tab lets you set up the scheme for the cursor depending on its functionality.
- Motion: This tab lets you set up a relation between the speed of your finger motion and the speed of the cursor. It also allows you to enable a Pointer Trail for the cursor arrow.

TOUCH SCREEN

The integrated Touch Screen allows you to use either the included stylus, or your finger, as a pointing device. You can use the stylus to click, double-click, drag items and icons, or to draw like a pen or pencil in applications that support this behavior, such as drawing or painting programs. See the documentation that came with your application for details. *(Figure 2-16)*

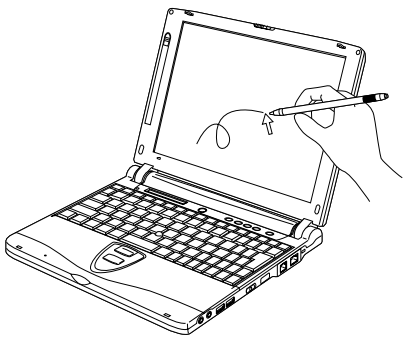


Figure 2-16 Using the Stylus with the Touch Screen

CAUTION

To avoid potential scratching and damage, never use anything but the included stylus or your finger with the Touch Screen.

POINT

To purchase additional or replacement styluses, visit Fujitsu's accessories web site at: http://www.fujitsupc.com.

Clicking

To left-click, touch the object you wish to select and then lift the stylus tip immediately. The Touch Screen does not support right-clicking. You also have the option to perform the left-click operation by tapping lightly with your finger on the Touch Screen once. *(Figure 2-17)*

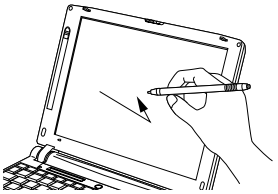


Figure 2-17 Clicking the Touch Screen

Double-Clicking

To double-click, touch the item twice, and then immediately remove the stylus tip. You also have the option to perform the double-click operation by tapping lightly with your finger on the Touch Screen twice. *(Figure 2-18)*

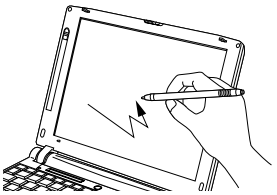


Figure 2-18 Double-clicking the Touch Screen

POINT

If the interval between taps is too long, the double-click will not be executed.

POINT

Parameters for the Touch Screen can be adjusted from the Mouse Properties dialog box located in the Windows Control Panel.

Dragging

Dragging means touching the screen with the stylus, moving and then lifting the stylus. To drag, tap the Touch Screen twice with your stylus over the item you wish to move, making sure to leave your finger on the screen after the final tap. Next, move the item to its new location by moving the stylus across the screen, and then lifting the stylus to release it. Dragging can also be done using your fingertip. *(Figure 2-19)*

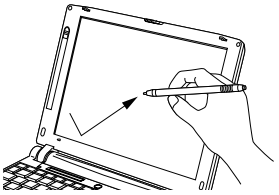


Figure 2-19 Dragging on the Touch Screen

Calibrating the Touch Screen

In order to ensure accurate tracking between the stylus and cursor, you must run the Touch Screen Calibration Utility before you use the Touch Screen for the first time, or after you change the display resolution.

To run the calibration utility:

1. On the **Start** menu, point to **Programs**. Point to **Fujitsu Touch Panel/Compensation Tool**. This will open the Compensation Tool.
2. Adjust the display of your LifeBook to a comfortable angle and find the red + symbol in the upper-left corner of the display.
3. Using the stylus, touch the screen near the + symbol and without lifting the tip, move the stylus to the center of the symbol. Once the stylus tip is in the center of the symbol, lift it off the Touch Screen. This will cause the red + to disappear from the corner and reappear in a different place on your screen.
4. Repeat step 3 until you have selected a total of nine symbols. This is the minimum number of points necessary to calibrate your touch screen.
5. Once you have selected the nine symbols, press the [ENTER] key.

POINT

If you receive an error message at this point, you selected fewer than nine symbols. Click **OK** and begin again at Step 2.

6. Touch the stylus to various points on the screen to verify that the screen is correctly calibrated. If you are satisfied with the screen's calibration, press the [ENTER] key. If you are not satisfied, press the [HOME] key to begin again at Step 2.

Volume Control

Your Fujitsu LifeBook has multiple volume controls which interact with each other.

CAUTION

Any software that contains audio files will also contain a volume control of its own. If you install an external audio device that has an independent volume control, the hardware volume control and the software volume control will interact with each other. It should be noted that if you set your software volume to Off, you will override the external volume control setting.

CONTROLLING THE VOLUME

The volume can be controlled in several different ways:

- Volume can be set from within the Volume Control on the Taskbar.
- Volume can be controlled with the F8 and F9 functions keys. Pressing [F8] repeatedly while holding [FN] will decrease the volume of your LifeBook. Pressing [F9] repeatedly while holding [FN] will increase the volume of your LifeBook.

POINT

There are seventeen levels through which the function keys cycle.

- Volume can be controlled by many volume controls that are set within individual applications.
- Certain external audio devices you might connect to your system may have hardware volume controls.

Each source discussed above puts an upper limit on the volume level that must then be followed by the other sources.

We recommend that you experiment with the various volume controls to discover the optimal sound level.

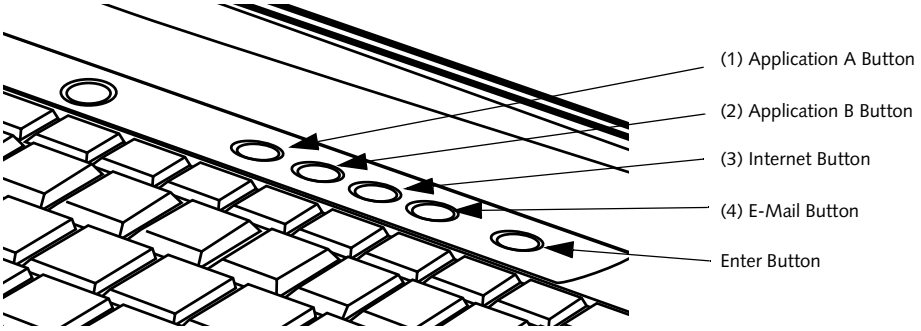


Figure 2-20 LifeBook Security/Application Panel

LifeBook Security/ Application Panel

A unique feature of your LifeBook is the Security/Application Panel that allows you to secure your LifeBook from unauthorized use. The Security/Application Panel also allows you to launch applications with a touch of a button when your system is on.

If the security system is activated, upon starting your LifeBook or resuming from suspend mode the security system requires you to enter a password code using the buttons on the Security/Application Panel. After entering a correct password, your LifeBook resumes system operation. *(Figure 2-20)*

SETTING UP YOUR LIFEBOOK SECURITY PANEL

When you receive your LifeBook, the security panel application is pre-installed without any passwords. The following sections will provide detailed information on your security panel, how to set, change or remove passwords.

Numbered Buttons

Use these buttons to enter your password.*(Figure 2-20)*

Enter Button

After entering the button strokes, push this button to enter the password into the LifeBook. *(Figure 2-20)*

PASSWORDS

The user and supervisor password may be set on this LifeBook. A supervisor password is typically the same for all LifeBooks in a working group, office, or company to allow for system management. Individual LifeBooks in a group environment should not use a common password. A password consists of one to five button strokes plus the enter button. A valid stroke consists of pushing one or up to four buttons simultaneously. The following are valid button strokes:

- Pushing [4] by itself
- Pushing [2] and [3] at the same time
- Pushing [1], [2], and [4] at the same time
- Pushing [1], [2], [3], and [4] at the same time

The following are valid passwords. The numbers within braces ({ }) are button strokes using more than one button.

- {[2]+[3]}, [1], [enter]
- [4], [enter]
- {[1]+[3]}, {[2]+[3]+[4]}, [1], [4], [2], [enter]

Setting Passwords

When shipped from the factory, no passwords are set. You have a choice of having no password or setting a supervisor and user password. You must set the supervisor password before the user password.

POINT

The purpose of supervisor password is to be able to bypass the user password in case the user password is forgotten. The supervisor password alone will not lock the system.

POINT

You have to set both the supervisor and user passwords for the security panel to work.

Setting Supervisor Password

You must have set a supervisor password before setting any user passwords. The supervisor password can bypass the user password.

1. Go to the **Start** menu.
2. Click on **Run**.
3. Type in `FJSECS.EXE`, then press [Enter]

4. Follow the on-screen instructions to set the Supervisor password.

Setting User Password

1 Go to the **Start** menu.
2. Click on **Programs**.
3. Click on **Security Panel Application** and **Set User Password**.
4. Follow the on-screen instructions to set the user password.

POINT

You may change or remove the supervisor or user password by repeating the steps defined above.

OPERATING YOUR LIFEBOOK SECURITY/ APPLICATION PANEL

The security lock feature is in effect both when the system resumes from Off or suspend state. You always need to push the Suspend /Resume button to input the user password. Your system will not begin the boot sequence without entering your supervisor/user password.

From Off State

1. Turn on your system.
2. When the Security Indicator flashes, enter the password and press Enter button.

   For example, if the password is 22222, Press Button Number 2 five times and press Enter button.

   The LifeBook will boot to normal operation.

From Suspend State

1. Press your Suspend/Resume button.
2. When the Security Indicator flashes, enter the password and press Enter button.

   The LifeBook should resume normal operation.

Incorrect Password Entry

If an invalid supervisor or user password is entered three times in succession, the system will "beep" for about one minute. If a valid password is entered within a minute (while system beeps), the beeping will stop and the LifeBook will resume normal operation. If no or an invalid password is entered while the system beeps, the system will return to its previous locked state (suspend or off) and the Security Indicator will go off. To reactivate the LifeBook after a password failure, you must press the Suspend/Resume button, then enter a correct password.

POINT

Remember the user password you specified on the Security Panel Application. If you forget the password you will not be able to use your computer. The supervisor password can override the user password.

PRECAUTIONS

Opening and Closing the Cover

Closing the cover automatically places the LifeBook into suspend mode. Opening the cover does not automatically place the LifeBook into normal operation. Instead, you must enter the proper security password after pushing the Suspend/Resume button.

Low Battery Operations

If your LifeBook has low battery, pushing the suspend/ resume button only turns on the Security Indicator. Your LifeBook does not unlock, the Security Indicator turns off after one minute. To resume normal operation, first attach a power supply to the LifeBook. Then you may unlock the LifeBook.

UNINSTALLING THE SECURITY PANEL APPLICATION

You have two options when uninstalling the security panel application:

- Uninstall the security panel application software. This will disable all security feature.
- Uninstall the security panel application with password still active. This will not allow any changes to the password.

Uninstalling the Security Panel Application Software

Remove passwords when User wants no password protection whatsoever and doesn't want to give anybody the utility to set a password on their computer. In this case, if passwords (supervisor, user, or both) are set, the passwords must first be cleared BEFORE removing the application. To clear passwords, follow same procedure in SETTING PASSWORD CODES except this time, select REMOVE, enter current password then click **Next**. When asked to confirm select **Yes**.

Removing Security Panel Application with Passwords Still Active

Using this feature will not allow any changes to the password.

POINT

Removing the applications does not remove the password. It simply removes the utility to change/add/remove passwords. To change your password you must reinstall the application.

User:

1. Go to **Start** Menu, Click on **Control Panel**.
2. Open **Add/Remove Programs Properties** in the Control Panel.
3. Select the **Security Panel Application** in the list, and click **Add/Remove**.
4. When the Confirm File Deletion box appears, click **Yes**.

Supervisor:

1. Go to **Start** Menu, Click on **Control Panel**.
2. Open **Add/Remove Programs Properties** in the Control Panel.
3. Select the **Security Panel Application for Supervisor** in the list, and click **Add/Remove**.
4. When the Confirm File Deletion box appears, click **Yes**.

Reinstalling the Security/Application Panel

To reinstall supervisor or user security application, you will need your Drivers and Utilities CD. The **Secpanel folder** located in the **Utilities\Security Panel** contains the setup files for supervisor and user security application.

1. Double-click the **Setup FJSECS.EXE** file. The Installing Security Panel Application window will appear. Follow the instructions on the screen.
2. Double-click the **Setup FJSECU.EXE** file. The Installing Security Panel Application window will appear. Follow the instructions on the screen.

   Supervisor and user passwords can be set by the Windows Software which are FJSECS.EXE and FJSECU.EXE respectively. FJSECU.EXE for user password cannot run without supervisor password. First you need to run FJSECS.EXE to set supervisor password before setting user password. Follow instructions under Setting Passwords.

If you forget both passwords, please contact Fujitsu PC Corporation Service and Support at 1-800-8FUJITSU (1-800-838-5487). Fujitsu PC Corporation charges a service fee for unlocking a password restricted LifeBook. When calling please have a valid credit card and provide proof of ownership. You will then be given instructions on where to ship your LifeBook.

LAUNCHING APPLICATIONS WITH THE SECURITY/APPLICATION PANEL

The security panel also enables you to launch applications with the touch of a button when your system is on. Pressing any of the buttons will launch a user-defined application. Your LifeBook is pre-installed with software utilities that let you operate and configure your LifeBook Security /Application Panel. These utilities are found under the Start menu, under Programs, then under LifeBook Application Panel. They include Application Panel Setup, Application Panel Guide, Activate Panel and Deactivate Panel.

Configuring your LifeBook Application Panel

When you start Windows, the LifeBook Application Panel is automatically activated. An icon resembling a finger pressing a button will appear on the system tray (the indented portion of the status bar where the clock is displayed). When you see this icon you will know that LifeBook Application Panel is active.

As an application launcher, the LifeBook Application Panel is very flexible, giving you a variety of options. To set up the Panel to best suit your needs, we have provided the Application Panel Setup utility that quickly and easily helps you make the most of this valuable feature.

To configure your LifeBook Application Panel with Application Panel Setup:

1. Click on **Start**.
2. Click on **Programs**.
3. Click on **LifeBook Application Panel**.
4. Click on **Application Panel Setup**.

The Application Panel Setup utility will appear. There are tabs that correspond to the application buttons on the LifeBook Application Panel. When you receive your LifeBook, these buttons are pre-configured to launch specific programs, as referenced in Chapter 7 of this document.

POINT

The tabs in Application Panel Setup may not be in the same order as the buttons on your LifeBook, please select the tab you wish to change carefully.

To change an application associated with the Application buttons, click on the tab for the button you would like to reconfigure – for example, Application 1. Click on Browse from Start Menu, scroll down the list of applications, click on the application you wish to launch with this button, and then click OK. The button will now launch the new application.

The Internet tab is different. It comes set to launch your Windows default Internet browser (Internet Explorer), unless you have changed this in Windows. In order to reconfigure it to launch another program follow these easy steps:

1. Click on **Other** from the Internet browser box.
2. Click on **Browse** from Start Menu.
3. Scroll down the list of applications, and then click on the application you wish to launch with this button.
4. Click **OK**.

The button will now launch the new application. If you want to return to launching your Windows default Internet browser with this button, you need only click on "Default Internet Browser" from the Internet browser box. Be aware that you will erase the settings for the "other application". If you wish to go back to launching the "other application" from this button, you will need to reconfigure it as described above.

POINT

If your system has dedicated one of the application launcher buttons to be an Internet launcher, the button can still be configured to launch any application you wish, not just an Internet browser.

When you have finished with Application Panel Setup click OK, and the new settings will take effect. You can reconfigure your LifeBook Application Panel as often as you like.

Deactivating and Activating the LifeBook Application Panel

To deactivate the LifeBook Application Panel, follow these easy steps:

1. Click on **Start**.
2. Click on **Programs**.
3. Click on **LifeBook Application Panel**.
4. Click on **Deactivate Panel**.

To reactivate, follow the same procedure, except for step 4. Click on **Activate Panel** instead.

POINT

Every time you start Windows the LifeBook Application Panel is activated, even if you deactivated it before you shut down.

3
Getting Started

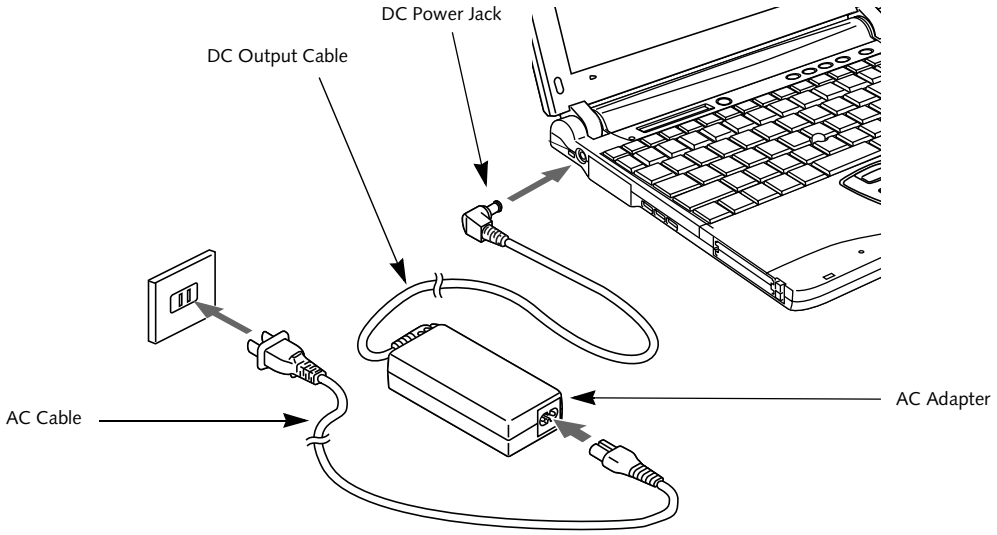


Figure 3-1 Connecting the AC Adapter

Power Sources

Your LifeBook has three possible power sources: a primary Lithium ion battery, an AC adapter or an optional Auto/Airline adapter.

CONNECTING THE POWER ADAPTERS

The AC adapter or optional Auto/Airline adapter provides power for operating your LifeBook and charging the batteries.

Connecting the AC Adapter

1. Plug the DC output cable into the DC power jack of your LifeBook.
2. Plug the AC adapter into an AC electrical outlet. *(Figure 3-1)*

Connecting the Optional Auto/Airline Adapter

1. Plug the DC output cable into the DC power jack on your LifeBook.
2. Plug the Auto/Airline adapter into the cigarette lighter of an automobile with the ignition key in the On or Accessories position.

   OR
3. Plug the Auto/Airline adapter into the DC power jack on an airplane seat.

Switching from AC Adapter Power or the Auto/Airline Adapter to Battery Power

1. Be sure that you have at least one charged battery installed.
2. Remove the AC adapter or the Auto/Airline adapter.

CAUTION

The Lithium ion battery is not charged upon purchase. Initially, you will need to connect either the AC adapter or the Auto/Airline adapter to use your LifeBook.

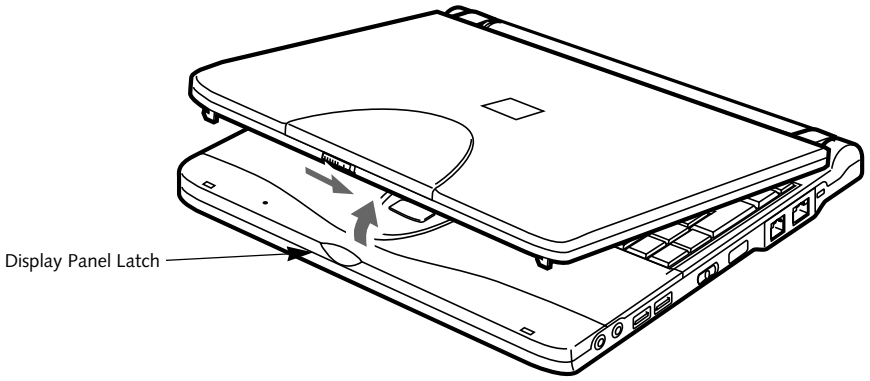


Figure 3-2 Opening the Display Panel

Display Panel

Your LifeBook contains a display panel that is backlit for easier viewing in bright environments and maintains top resolution through the use of active-matrix technology.

OPENING THE DISPLAY PANEL

1. Slide the Display Panel latch. This releases the locking mechanism and raises the display slightly.
2. Lift the display backwards, being careful not to touch the screen, until it is at a comfortable viewing angle. *(Figure 3-2)*

ADJUSTING DISPLAY PANEL BRIGHTNESS

Once you have turned on your LifeBook, you may want to adjust the brightness level of the screen to a more comfortable viewing level. There are two ways to adjust the brightness, keyboard and power management utility.

Keyboard

Adjusting the brightness using the keyboard changes the setting only temporarily.

- [Fn+F6]: Pressing repeatedly will lower the brightness of your display.
- [Fn+F7]: Pressing repeatedly will increase the brightness of the display.

POINT

If using AC power your brightness setting is set to its highest level by default. If using battery power your brightness settings is set to approximately mid-level by default.

Power Management Utility (Windows 98 Second Edition models only)

Adjusting the brightness using the Power Management Utility changes the setting permanently.

1. Double-click the Battery Icon in the lower right corner of your display. This will open the BatteryAid Properties dialog box.
2. Select the Power Control tab and adjust your LCD Backlighting to the desired level.
3. Click **OK** or **Apply** to permanently change the settings.

You may need to readjust the brightness level periodically depending on your operating environment.

POINT

The higher the brightness level, the more power the LifeBook will consume and the faster your batteries will discharge. For maximum battery life, make sure that the brightness is set as low as possible.

CLOSING THE DISPLAY PANEL

1. Holding the edge of your display panel, pull it forward until it is flush with the body of your LifeBook.
2. Push down until you hear a click. This will engage the locking mechanism and prevent your display panel from opening unexpectedly.

Starting Your LifeBook

POWER ON

Power Switch

The power switch is used to turn on your LifeBook from its off state. Once you have connected your AC adapter or charged the internal Lithium ion battery, you can power on your LifeBook. *(See figure 2-7 on page 11 for location)*

CAUTION

When you turn on your LifeBook be sure you have a power source. This means that at least one battery is installed and charged, or that the AC or Auto/Airline adapter is connected and has power.

Facing the right-side panel of your LifeBook, move the power switch to the right, this is the On position. The power switch moved to the left is the Off position. When you are done working you can either leave your LifeBook in Suspend mode, See "Suspend Mode" on page 32., or you can turn it off. *See "Power Off" on page 34.*

CAUTION

Do not carry your LifeBook around with the power on or subject it to shocks or vibration, as you risk damaging your LifeBook.

When you Power On your LifeBook, it will perform a Power On Self Test (POST) to check the internal parts and configuration for correct functionality. If a fault is found, your LifeBook will emit an audio warning and/or an error message will be displayed. See "Power On Self Test Messages" on page 61. Depending on the nature of the problem, you may be able to continue by starting the operating system or by entering the BIOS setup utility and revising the settings.

After satisfactory completion of the Power On Self Test (POST), your LifeBook will load your operating system.

CAUTION

Never turn off your LifeBook during the Power On Self Test (POST) or it will cause an error message to be displayed when you turn your LifeBook on the next time. *See "Power On Self Test Messages" on page 61.*

BOOT SEQUENCE

The procedure for starting-up your LifeBook is termed the Bootup sequence and involves your LifeBook's BIOS. When your LifeBook is first turned on, the main system memory is empty, and it needs to find instructions to start up your LifeBook. This information is in the BIOS program. Each time you power up or restart your LifeBook, it goes through a boot sequence which displays a Fujitsu logo until your operating system is loaded. During booting, your LifeBook is performing a standard boot sequence including a Power On Self Test (POST). When the boot sequence is completed without a failure and without a request for the BIOS Setup Utility, the system displays the operating system's opening screen.

The boot sequence is executed when:

- You turn on the power to your LifeBook.
- You restart your LifeBook from the Windows Shut Down dialog box.
- The software initiates a system restart. Example: When you install a new application.
- You reset the system by pressing the three keys [CTRL+ALT+DEL].

BIOS SETUP UTILITY

The BIOS Setup Utility is a program that sets up the operating environment for your LifeBook. Your BIOS is set at the factory for normal operating conditions, therefore there is no need to set or change the BIOS' environment to operate your LifeBook.

The BIOS Setup Utility configures:

- Device control feature parameters, such as changing I/O addresses and boot devices.
- System Data Security feature parameters, such as passwords.

Entering the BIOS Setup Utility

To enter the BIOS Setup Utility do the following:

1. Turn on or restart your LifeBook.
2. Press the [F2] key once the Fujitsu logo appears on the screen. This will open the main menu of the BIOS Setup Utility with the current settings displayed.
3. Press the [RIGHT ARROW] or [LEFT ARROW] key to scroll through the other setup menus to review or alter the current settings.

BIOS Guide

A guide to your LifeBook's BIOS is available online. Please visit our service and support Web site at **www.fujitsupc.com/support**. Once there, click on the Self Help Center link, and select your LifeBook series from the pull-down menu. Once you have done that, select the heading BIOS Guides from the pull-down menu and finally, select your specific unit's BIOS number. If you are unsure of your LifeBook's BIOS number, please refer to your packing slip.

POINT

If your data security settings require it, you may be asked for a password before the BIOS main menu will appear.

BOOTING THE SYSTEM WITH WINDOWS 98 SECOND EDITION

We strongly recommend that you not attach any external devices and do not put a CD or floppy disk in any drive until you have gone through the initial power on sequence.

When you turn on your LifeBook for the first time, it will display a Fujitsu logo on the screen. If you do nothing the system will read the hard drive for the operating system software, flash the LifeBook configuration information on the screen, and then the Windows 98 Second Edition Welcome will begin.

Designed to accommodate the needs of many users, in many different countries, Windows 98 Second Edition needs to be configured the first time you use it. Windows 98 Second Edition has three parts:

- Getting Started: You have the opportunity to enter custom information for your configuration file and setup your modem so that your LifeBook will be prepared to dial out.
- Registration: Easy online registration for Windows 98 with Microsoft, and for your LifeBook with Fujitsu PC Corporation.
- Windows License Agreement and Final Settings: You have the opportunity to review the Windows 98 Second Edition License Agreement and then your configuration file will be generated.

POINT

You may click Cancel at any time within this process to shutdown Windows 98 Second Edition. You may restart this process at any time in the future, but you must complete it in order to use your computer.

Getting Started

Read the instructions on the screens carefully and fill in the information as directed. You will be asked to enter several pieces of identification information and how you access the Internet. For the modem settings, enter your current location information where you will be using your LifeBook. If you are not connected to a phone line and plan to register at a later time, you may click the **Skip** button, and you will go directly to the condition of use page.

Once you have setup your LifeBook to dial out, Windows 98 Second Edition will make a free telephone call which will test these settings. If the call is unsuccessful, you will be returned to the phone settings page where you may try to fix them. If you are unable to fix the settings please contact Fujitsu PC Service and Support. See "Fujitsu PC Contact Information" on page 3. If you would simply like to move on, and register at a later time, you may click the **Skip** button, and you will go directly to the Condition of Use page.

Registration

If your connection is successful, you will go to the Registration Confirmation page. On this page simply enter the requested information, and then check the box at the bottom to register your copy of Windows 98 Second Edition with Microsoft. Once you have finished, click the **Next** button to continue.

POINT

If you do not register at this time you can do it later simply by double-clicking on the **LifeBook Registration** icon on your desktop and following the instructions.

You will then go through the Fujitsu registration process. Follow the instructions on the screens, and enter all of the necessary information. Be as specific as possible so that if you need help the service and support team will be able to serve you better.

Final Settings

The first part of your final settings is the Windows End User License Agreement. Read the agreement carefully. When you finish reading you must accept or reject the terms of the agreement and then click on the **Next** button.

POINT

If you reject the terms of the license agreement you will be asked to review the license agreement for information on returning Windows 98 Second Edition or to shut down your LifeBook.

POINT

You cannot use your LifeBook until you have accepted the License Agreement. If you stop the process your LifeBook will return to the beginning of the Windows 98 Second Edition Welcome Process, even if you shut your LifeBook down and start it up again.

INSTALLING CLICK ME! (WINDOWS 98 ONLY)

The first time you boot up your system, you will see an icon on the desktop called Click Me!. When you click the Click Me! icon, your system will automaticaly build the icon tray in the bottom right of the screen. These icons provide links to utilities that you will frequently access.

Although the icon remains on the screen, you need invoke it only once. When you click Click Me!, the following pre-installed applications and utilities will be activated and appear on the taskbar:

- McAfee ActiveShield
- BatteryAid
- LifeBook Application Panel
- ATI Display Properties
- Alps Touchpad

BOOTING THE SYSTEM WITH WINDOWS 2000 PROFESSIONAL

We strongly recommend that you not attach any external devices and do not put a CD or floppy disk in any drive until you have gone through the initial power on sequence.

When you turn on your LifeBook for the first time, it will display a Fujitsu logo on the screen and then the Windows 2000 setup screen will appear. The Windows 2000 Professional setup will prompt you through a series of screens. You will be asked to enter custom and computer information, user password, date and time, workgroup or computer domain and accept or reject the license agreement. Once you have entered all the information you will be asked to restart your computer.

POINT

If you reject the terms of the license agreement you will be asked to review the license agreement for information on returning Windows 2000 Professional or to shut down your LifeBook.

REGISTERING YOUR LIFEBOOK

What are the benefits of registering?

You will receive an identification label for your LifeBook, which, if your LifeBook is ever lost, may help in getting it returned to you. You also receive priority Personal Identification Number (PIN) technical support access and useful product mailings. Proof of purchase is not required if you register within 30 days of your purchase.

How do I register?

With Windows 98 Second Edition, it is a part of the Welcome process. For Windows 98 and Windows 2000, you can also double-click on the LifeBook Registration icon on your desktop and then follow the instructions.

POINT

Make sure you have connected a phone line to your modem before you use E-Registration.

You may also complete the pre-printed registration form and either:

- Fax to 1-800-511-9989
- Mail to:
  Fujitsu PC Corporation
  5200 Patrick Henry Drive
  Santa Clara, CA 95054
  Attn: Warranty Department

You may also register on our Web site:

- www.fujitsupc.com/support

You will need to be set up with an Internet Service Provider (ISP) to use this option.

Power Management

Your LifeBook has many options and features for conserving battery power. Some of these features are automatic and need no user intervention, such as those for the internal modem. However, others depend on the parameters you set to best suit your operating conditions, such as those for the display brightness. Internal power management for your LifeBook may be controlled from settings made in your operating system, pre-bundled power management application, or from settings made in BIOS setup utility.

Besides the options available for conserving battery power, there are also some things that you can do to prevent your LifeBook battery from running down as quickly. For example, you can create an appropriate power saving profile, put your LifeBook into Suspend mode when it is not performing an operation, and you can limit the use of high power devices. As with all mobile, battery powered computers, there is a trade-off between performance and power savings.

SUSPEND/RESUME BUTTON

When your LifeBook is active, the Suspend/Resume button can be used to manually put your LifeBook into Suspend mode. Push the Suspend/Resume button when your LifeBook is active, but not actively accessing anything, and immediately release the button. You will hear two short beeps and your system will enter Suspend mode. *(See figure 2-5 on page 8 for location)*.

If your LifeBook is suspended, pushing the Suspend/Resume button will return your LifeBook to active operation. You can tell whether or not your system is in Suspend mode by looking at the Power indicator. *See "Power Indicator" on page 13.* If the indicator is visible and not flashing, your LifeBook is fully operational. If the indicator is both visible and flashing, your LifeBook is in Suspend mode. If the indicator is not visible at all, the power is off or your LifeBook is in Save-to-Disk mode *(See Save-to-Disk Mode)*

SUSPEND MODE

Suspend or Standby mode in Windows saves the contents of your LifeBook's system memory during periods of inactivity by maintaining power to critical parts. This mode will turn off the CPU, the display, the hard drive, and all of the other internal components except those necessary to maintain system memory and allow for restarting. Your LifeBook can be put in Suspend mode by:

- Pressing the Suspend/Resume button when your system is turned on.
- Selecting Standby from the Windows Shut Down menu.
- Timing out from lack of activity.
- Allowing the battery to reach the Dead Battery Warning condition.

Your LifeBook's system memory typically stores the file(s) on which you are working, open application(s) information, and any other data required to support the operation(s) in progress. When you resume operation from Suspend mode, your LifeBook will return to the point where it left off. To resume operation, you must use the Suspend/Resume button to resume operation, and there must be an adequate power source available, or your LifeBook will not resume.

CAUTION

If you are running your LifeBook on battery power, be aware that the battery continues to discharge while your LifeBook is in Suspend mode, though not as fast as when fully operational.

SAVE-TO-DISK MODE (Windows 98 Second Edition models only)

The Save-to-Disk mode saves the contents of your LifeBook's system memory to the hard drive as a part part of the Suspend/Resume mode. Your LifeBook is pre-configured to perform this function. The Save-to-Disk mode can also be configured through the system BIOS to run in other ways depending on what you need to accomplish. *See "BIOS Setup Utility" on page 29.*

Default Methods for using Save-to-Disk Mode:

1. Press the [Fn] button together with the Suspend/Resume button. This will open a Save-to-Disk dialog box and begin the process.

Customer Configured BIOS Methods for using Save-to-Disk Mode:

1. Click on the **Start** button, click **Shut Down** and and then **Standby**. Prior to that you should enable Save-to-Disk in the BIOS setup utility.

   OR

2. Enable **Save-To-Disk** mode from within the Power dialog box of the BIOS setup utility, then press the Suspend/Resume button to execute this command under DOS or Windows 98 Second Edition.

   OR

3. Enable **Save-To-Disk** mode from within the Power dialog box of the BIOS setup utility, then allow the LifeBook to time out from lack of activity.

CAUTION

The Suspend or Save-to-Disk mode should not be used with certain PC Cards. Check your PC Card documentation for more information.

POINTS

- Disabling the Suspend/Resume button prevents it from being used to put your LifeBook in Suspend or Save-to-Disk mode. The resume function of the button cannot be disabled.
- If your LifeBook is actively accessing information when you enter the Suspend or Save-to-Disk mode, changes to open files are not lost. The files are left open and memory is kept active during Suspend mode or the memory is transferred to the internal hard drive during Save-to-Disk mode.
- When PC Cards or external devices are in use, Save-to-Disk mode cannot return to the exact state prior to suspension, because all of the peripheral devices will be re-initialized when the system restarts.
- The main advantage of using the Save-to-Disk function is that power is not required to maintain your data. This is particularly important if you will be leaving your LifeBook in a suspended state for a prolonged period of time. The drawback of using Save-to-Disk mode is that it lengthens the power down and power up sequences and resets peripheral devices.

POINT

Save-to-Disk mode requires allocating a significant amount of hard drive capacity for saving all system memory, which reduces your usable disk space. When you purchase your LifeBook it will have space allocated for the memory installed. If you upgrade the original system by adding a memory upgrade module without changing the size of your Save-to-Disk allocation you will get an error message when you try to activate Save-to-Disk mode and it will not work. Use the PHDISK Utility to increase the size of the Save-to-Disk file, SAVE2DSK.BIN. You can download the Save-to-Disk File Allocation information from our Web site at www.fujitsupc.com. If you need help, contact your support representative for recommendations.

HIBERNATION FEATURE (Windows 2000 Professional models only)

The Hibernation feature saves the contents of your LifeBook's system memory to the hard drive as a part of the Suspend/Resume mode. You can enable or disable this feature. To use the Hibernation feature follow these easy steps:

1. Click on the **Start** button, click **Shut Down**.
2. Select **Hibernate** option from the "What do you want the computer to do" list.

Enable or Disable the Hibernation Feature

The default setting is enabled. To enable or disable the Hibernation feature follow these easy steps:

1. From the **Start** menu, select **Settings**, and then select **Control Panel**.
2. Select **Hibernation,** and then select the box to enable or disable this feature.

IDLE MODE

Idle mode is one of the power management parameters. When Idle mode is enabled, the CPU is put into low-speed operation when there is no activity (keystroke, pointer action, sound generation, video display change, modem transmission or reception, etc.) on your LifeBook for 16 seconds. Any activity will cause the normal operation to restart automatically. This feature is independent of the Suspend/Resume modes.

STANDBY MODE

Standby mode is one of the power management parameters. When Standby mode is activated, your LifeBook shuts off the display and turns off the hard drive when there is no activity (keystroke, pointer action, sound generation, video display change, modem transmission or reception, etc.) on your LifeBook for the user selected time-out period. Any activity will cause your LifeBook

to return to normal operation automatically. This feature is independent of the Suspend/Resume button.

DISPLAY TIMEOUT

The Video Timeout is one of the power management parameters. This feature saves power by turning off the display if there is no keyboard or pointer activity for the user selected timeout period. Any keyboard or pointer activity will cause the display to restart automatically. This feature is independent of the Suspend/Resume button and can be enabled and disabled in Windows and BIOS setup utility. *See "BIOS Setup Utility" on page 29.*

HARD DISK TIMEOUT

The Hard Disk Timeout is another one of the power management parameters. This feature saves power by turning off the hard drive if there is no hard drive activity for the user selected timeout period. Any attempt to access the hard drive will cause it to restart automatically. This feature is independent of the Suspend/Resume button and can be enabled and disabled in Windows and BIOS setup utility. *See "BIOS Setup Utility" on page 29.*

WINDOWS POWER MANAGEMENT

The Power Management icon located in the Windows Control Panel allows you to configure some of the power management settings. For example, you can use the Power Management to set the timeout values for turning off the display and hard disks whether you are running the LifeBook on battery power or one of the adapters. The settings may also be changed in the BIOS. *See "BIOS Setup Utility" on page 29.*

RESTARTING THE SYSTEM

If your system is on and you need to restart it, be sure that you use the following procedure.

1. Click the **Start** button, and then click **Shut Down**.
2. Select the **Restart** option from within the Windows Shut Down dialog box.
3. Click **OK**. Your LifeBook will shut down and then reboot.

CAUTION

Turning off your LifeBook without exiting Windows or turning on your LifeBook within 10 seconds of the LifeBook being shut off may cause an error when you start the next time.

POWER OFF

Before turning off the power by choosing Shut Down from the Windows Start menu, check that the Hard Drive, CD-ROM, PC Card and the Floppy Disk Drive Access indicators are all Off. *(See Figure 2-5 on page 8)* If you turn off the power while accessing a disk or PC Card there is a risk of data loss. To assure that your LifeBook shuts down without error, use the Windows shut down procedure.

CAUTION

Be sure to close all files, exit all applications, and shut down your operating system prior to turning off the power with the power switch. If files are open when you turn the power off, you will lose any changes that have not been saved, and may cause disk errors.

Using the correct procedure to shut down from Windows, allows your LifeBook to complete its operations and turn off power in the proper sequence to avoid errors. The proper sequence is:

1. Click the **Start** button, and then click **Shut Down**.
2. Select the **Shut Down** option from within the Windows Shut Down dialog box.
3. Click **OK**.
4. Move the power switch to the off position.

If you are going to store your LifeBook for a month or more see the Care and Maintenance section.

4
User-Installable Features

Lithium ion Battery

Your LifeBook has a Lithium ion battery that provides power for operating your LifeBook when no external power source is available. The battery is durable and long lasting, but should not be exposed to extreme temperatures, high voltages, chemicals or other hazards.

The Lithium ion battery operating time may become shorter if it is used under the following conditions:

- When used at temperatures that exceeds a low of 5°C (40°F) or a high of 35°C (95°F). Extreme temperatures not only reduce charging efficiency, but can also cause battery deterioration. The Charging icon on the Status Indicator panel will flash when you try to charge a battery that is outside its operating temperature range. *See "Battery Charging Indicators" on page 14.*
- When using a high current device such as a modem, CD-ROM drive, or the hard drive, using the AC adapter will conserve your battery life.

CAUTION

Actual battery life will vary based on screen brightness, applications, features, power management settings, battery condition and other customer preferences. CD-ROM drive or hard drive usage may also have a significant impact on battery life. The battery charging capacity is reduced as the battery ages. If your battery is running low quickly, you should replace it with a new one.

CAUTION

Do not leave a faulty battery in your LifeBook. It may damage your AC adapter, optional Auto/Airline adapter, another battery or your LifeBook itself. It may also prevent operation of your LifeBook by draining all available current into the bad battery.

CAUTION

Under federal, state, or local law it may be illegal to dispose of batteries by putting them in the trash. Please take care of our environment and dispose of batteries properly. Check with your local government authority for details regarding recycling or disposing of old batteries. If you cannot find this information elsewhere, contact your support representative at 1-800-8FUJITSU (1-800-838-5487).

RECHARGING THE BATTERIES

If you want to know the condition of the primary Lithium ion battery, check the Battery Level indicator located on the Status Indicator panel. The indicator changes as the battery level changes.

The Lithium ion battery is recharged internally using the AC adapter or Auto/Airline adapter. To recharge the battery make sure the battery that needs to be charged is installed in your LifeBook and connect the AC or Auto/Airline adapter.

POINT

Make sure that the Battery Charging indicator and the percentage charge is shown inside the Battery Level icon on the Status Indicator Panel.

There is no memory effect on the Lithium ion battery therefore you do not need to discharge the battery completely before recharging. The charge times will be significantly longer if your LifeBook is in use while the battery is charging. If you want to charge the battery more quickly, put your LifeBook into Suspend mode, or turn it off while the adapter is charging the battery. *See "Power Management" on page 32.*

CAUTION

Using heavy current devices such as Modem or frequent CD-ROM and PCMCIA powered external devices accesses may prevent charging completely.

Low Battery State

When the battery is running low, your LifeBook will beep every 15 seconds and the Battery Level indicator will flash. If you do not respond to the low battery alarm, the batteries will continue to discharge until they are
too low to operate. When this happens there will be a multiple beep alarm and the Battery Level indicator will show a dead battery. Your LifeBook will then go into Suspend mode to try and protect your data for as long as possible. There is no guarantee that your data will not be lost once the LifeBook reaches this point.

CAUTION

You may not be able to hear the audio alarm if the volume control is set too low or is turned off by either the hardware or software. However, you will still be able to see the Battery Level indicator flash. Once the low battery alarm occurs you need to save all your active data and put your LifeBook into Suspend mode until you can provide a new power source. You should provide a charged battery, an AC power adapter, or Auto/Airline as soon as possible.

CAUTION

When you are in Suspend mode there must always be at least one power source active. If you turn off the power with the power switch, or remove all power sources while your LifeBook is in Suspend mode, any data that has not been saved to the hard drive will be lost.

Dead Battery Suspend mode shows on the Status indicator just like the normal Suspend mode. Once your LifeBook goes into Dead Battery Suspend mode you will be unable to resume operation until you provide a source of power either from an adapter, or a charged battery. Once you have provided power, you will need to press the Suspend/Resume button to resume operation. In the Dead Battery Suspend mode, your data can be maintained for some time, but if a power source is not provided promptly, the Power indicator will stop flashing and go out, meaning that you have lost the data that was not stored. Once you provide power, you can continue to use your LifeBook while an adapter is charging the battery.

Shorted Batteries

The Status Indicator panel uses a symbol inside the battery outline of the Battery Level indicator to display the operating level available in that battery. *(See figure 2-10 on page 13)* If this display shows a Shorted Battery, it means that the battery is damaged and must be replaced so it does not damage any other parts of your LifeBook.

REPLACING THE BATTERY

Your LifeBook B Series comes with two battery packs: one installed and one spare. By keeping the spare battery fully charged, you can immediately swap with one that is not charged. There are two ways to swap batteries: cold-swapping and warm-swapping:

Cold-swapping Batteries

To cold-swap batteries in your battery bay follow these easy steps: *(Figure 4-1)*

1. Have a charged battery ready to install.
2. Shut down your LifeBook and disconnect the AC adapter.
3. Slide the Battery Bay Lock to the right, then slide the battery release button in the same direction.
4. Slide the battery away from the battery bay and remove it from the bay.
5. Position the new battery on the tray slides and carefully slide it fully into the tray. *(Figure 4-2)*
6. Slide the Battery Bay Lock to the left to lock the pack into position.
7. Plug in the AC adapter and turn the power on.

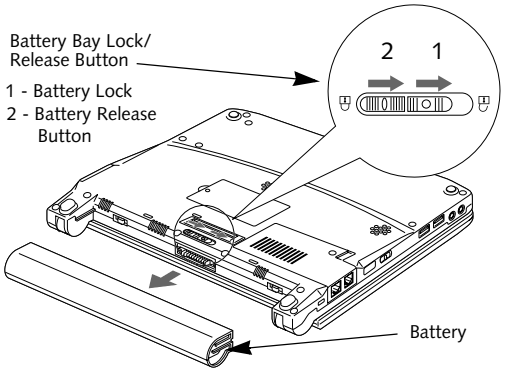


Figure 4-1 Removing the Battery

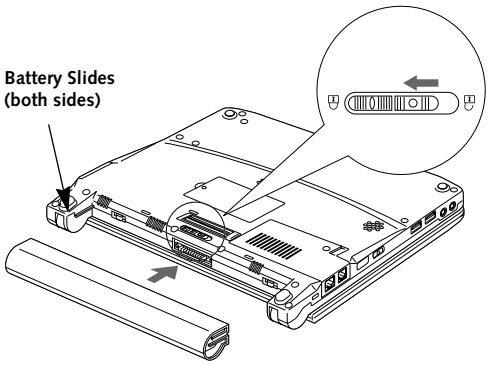


Figure 4-2 Installing the Battery

Warm-swapping Batteries

To warm-swap batteries in your battery bay follow these easy steps: *(Figure 4-1)*

1. Close any open files and put your LifeBook into suspend mode.
3. Slide the Battery Bay Lock to the right, then slide the Battery Release Button in the same direction.
4. Slide the battery away from the battery bay and remove it from the bay.
5. Position the new battery on the tray slides and carefully slide it fully into the tray. *(Figure 4-2)*
6. Slide the Battery Bay Lock to the left to lock the pack into position.
7. Press the Suspend/Resume button to return your LifeBook to normal operation.

CAUTION

If the Lithium ion battery connector is not fully seated, you may not be able to use your LifeBook or charge your battery.

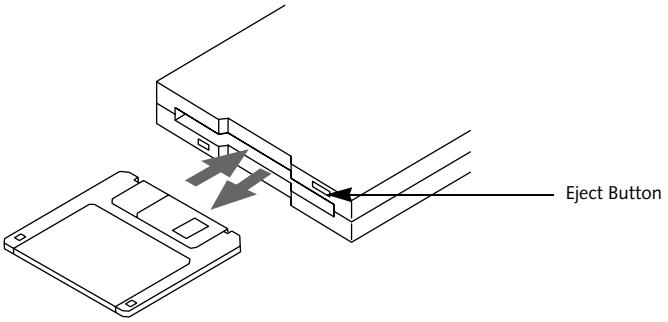


Figure 4-3 Loading/Ejecting a 3.5" Floppy Disk

External Floppy Disk Drive

Your LifeBook has an external floppy disk drive which can read and write information on removable 1.44MB and 720KB floppy disks.

LOADING A DISK

To load a disk into your disk drive, follow these easy steps:

1. Orient the disk so that its label is facing upwards and the shutter side is pointing towards the drive. *(Figure 4-3)*
2. Push the disk into the drive until the Eject button pops out and you hear a click.

POINT

When there is no disk in the drive, the Eject button is flush with your LifeBook.

EJECTING A DISK

To eject a disk from the disk drive, follow these easy steps:

1. Check that the Floppy Disk Drive Access indicator is inactive.
2. Press the Eject button. This will push your disk partially out of the drive.
3. Remove the disk.

CAUTION

If you eject the disk while the Floppy Disk Drive Access indicator is active, there is a risk of damaging the data on the disk, the disk itself or even the disk drive.

PREPARING A DISK FOR USE

Before you can use a new disk, it needs to be prepared so your LifeBook knows where to store information.

This preparation is called formatting or initializing a disk. You will need to format new disks, unless they are preformatted. *(Please refer to your operating system manual for step-by-step instructions on formatting a disk)*

To prevent accidental erasure of the data stored on a disk, slide the "write protect" tab until a small hole is exposed. This sets the disk into a protected state where nothing can be added or removed. If you want to add or remove data on a protected disk, slide the "write protect" tab to close the small hole. *(Figure 4-4)*

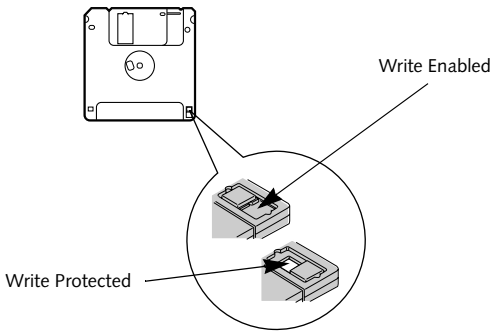


Figure 4-4 Floppy Disk Write Protect

CAUTION

Formatting a floppy disk that already contains data will erase all of the information on the disk.

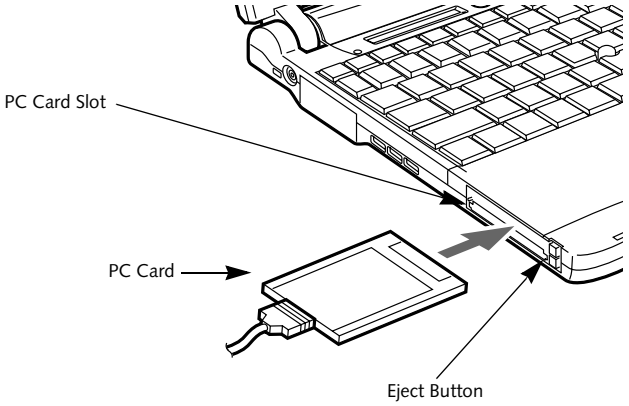


Figure 4-5 Installing/Removing PC Cards

PC Cards

Your LifeBook supports Type II and Type III PC Cards, which can perform a variety of functions.

Some available PC Cards:

- Fax/data modem cards.
- Local area network (LAN) cards.
- IDE solid-state disk cards.
- SCSI cards.
- Other PC Cards that conform to PCMCIA 2.1 or CardBus standards.
- Optional SmartCard adapter

For further information, refer to the instructions supplied with your PC Card.

INSTALLING PC CARDS

PC Cards are installed in the PC Card slot. To install a PC Card, follow these easy steps: *(Figure 4-5)*

WARNING

Installing or removing a PC Card during your LifeBook's shutdown or bootup process may damage the card and/or your LifeBook.

WARNING

Do not insert a PC Card into a slot if there is water or any other substance on the card as you may permanently damage the card, your LifeBook, or both.

1. See your PC Card manual for specific instructions on the installation of your card. Some PC Cards may require your LifeBook to be Off while installing them.
2. Make sure there is no PC Card currently in the slot. If there is, see Removing PC Cards.
3. Insert your PC Card into the slot, with the product label facing up.
4. Push the card into the slot firmly until it is seated in the opening.

REMOVING PC CARDS

To remove a PC Card, follow these easy steps:

CAUTION

Windows has a shutdown procedure for PC Cards that must be followed before removing a card. (Please review your operating system manual for the correct procedure)

1. See your PC Card manual for specific instructions on removing your card. Some PC Cards may require your LifeBook to be in Suspend Mode or Off while removing them.

POINT

If the dialog box states that the device cannot be removed, you must save all of your open files, close any open applications and shutdown your LifeBook. Once your LifeBook has been shutdown, you must turn Off the power using the power switch.

2. Push the Eject button until it pops out, and then push it in to eject the card. This will allow you to remove the card.

CAUTION

If the PC Card has an external connector and cable, do not pull the cable when removing the card.

SMARTCARD READER

An embedded SmartCard Reader is provided on your LifeBook. SmartCards are the same size and shape as credit cards, but they contain an integrated microprocessor chip. The chip can hold a variety of different information, and provides the user with many possible options, such as allowing them to make secure purchases, pay for phone calls, store security information, and provide personal identification and information.

In order to use the embedded SmartCard Reader, you must purchase an optional SmartCard adapter for installation into an available Type II PC Card slot.

Memory Upgrade Module

Your LifeBook has been configured with either 64MB or 128MB of high speed Synchronous Dynamic RAM (SDRAM) factory installed. To increase your LifeBook's memory capacity, you must replace the original memory module with a higher capacity module. The memory upgrade must be a dual-in-line (DIMM) 100 MHz SDRAM module.

CAUTION

Do not remove any screws from the memory upgrade module compartment except those specifically shown in the directions for installing and removing the memory upgrade module.

INSTALLING A MEMORY UPGRADE MODULE

1. Turn off power to your LifeBook using the power switch, and remove any attached power adapter (AC or auto/airline).
2. Make sure that all connector covers are closed.
3. Turn the LifeBook bottom side up, with the front panel toward you.
4. Remove the screws of the memory upgrade module compartment. *(Figure 4-6)*
5. Remove the cover.

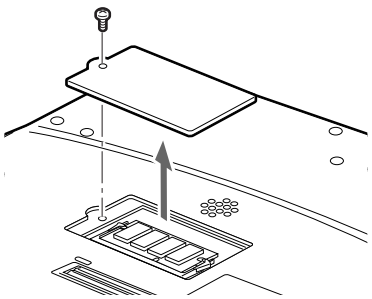


Figure 4-6 Opening the Memory Upgrade Compartment

CAUTION

The memory upgrade module can be severely damaged by electrostatic discharge (ESD). Be sure you are properly grounded when handling and installing the module.

6. Remove the memory upgrade module from the static guarded sleeve.
7. Align the memory upgrade module with the part side up. Align the connector edge of the memory upgrade module with the connector slot in the compartment. The connector will be pointing toward the rear of the LifeBook.
8. Insert the memory upgrade module at a 45° angle. Press the connector edge of the module firmly down and into the connector until it lodges under the retaining clip. You will hear a click when it is properly in place. *(Figure 4-7)*

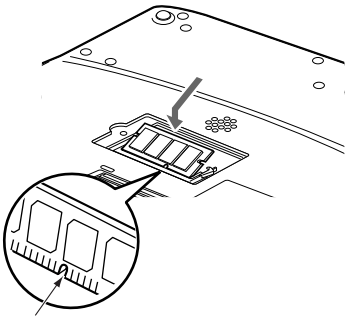


Figure 4-7 Installing a Memory Upgrade Module

9. Replace the cover.
10. Replace the screws.

POINT

The memory upgrade module is not something you routinely remove from your LifeBook. Once it is installed, you should leave it in place unless you want to change system memory capacity.

REMOVING A MEMORY UPGRADE MODULE

1. Perform steps 1 through 5 of Installing a Memory Upgrade Module.
2. Pull the clips sideways away from each side of the memory upgrade module at the same time.
3. While holding the clips out, remove the module from the slot by lifting it up and pulling towards the rear of your LifeBook. *(Figure 4-8)*

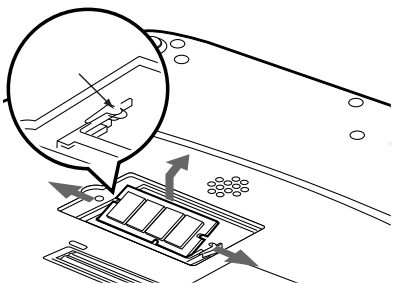


Figure 4-8 Removing a Memory Upgrade Module

4. Store the memory upgrade module in a static guarded sleeve.

5. Replace the cover by following steps 9 and 10 of Installing a Memory Upgrade Module.

POINT

After installing your new memory module, you must complete the Resetting the Save-to-Disk Parameters procedure in order for the Save-to-Disk mode to operate properly on your LifeBook. *See "Save-to-Disk Mode (Windows 98 Second Edition models only)" on page 32.*

CHECKING THE COMPUTER RECOGNITION OF NEW MEMORY CAPACITY

Once you have changed the system memory capacity, be sure to check that your LifeBook has recognized the change.

You can check the memory capacity by looking at the main menu of the BIOS setup:

1. Turn on the power to your LifeBook using the power switch.
2. Allow the system to start booting and press the [F2] key once the Fujitsu logo appears on the screen. This will open the main menu of the BIOS setup with the current settings displayed. *See "BIOS Setup Utility" on page 29.*

The System Memory and the Extended Memory capacity, as detected by your LifeBook during the Power On Self Test (POST), are displayed at the bottom of the main menu screen.

POINT

If the total memory displayed is incorrect, check that your memory upgrade module is properly installed. If the module is properly installed and the capacity is still not correctly recognized, see the Troubleshooting section. See "Troubleshooting" on page 51.

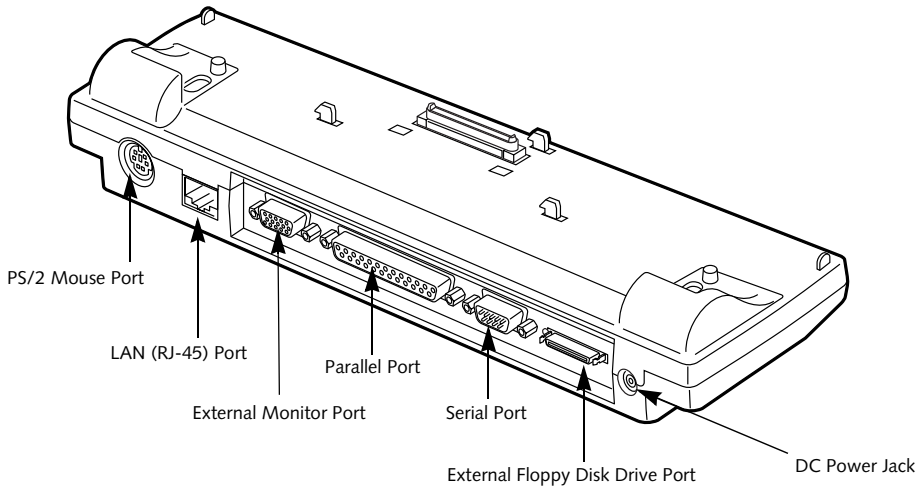


Figure 4-9 Port Replicator rear panel

Port Replicator

Your LifeBook comes with a Port Replicator. The Port Replicator extends the functionality of your LifeBook by providing ports to connect PS/2 devices, a parallel device, a serial device, and an external floppy disk drive. The Port Replicator connects to the rear panel of your LifeBook. See "Device Ports" on page 46.

REAR PANEL COMPONENTS

Following is a brief description of your Port Replicator's rear panel components.

PS/2 Mouse Port

The PS/2 mouse port allows you to connect an external PS/2 Mouse. *(Figure 4-9)*

Serial Port

The serial port allows you to connect serial (RS-232C) devices. (This is also sometimes referred to as a COMM port.) *(Figure 4-9)*

Parallel Port

The parallel port allows you to connect parallel devices. (This is also sometimes referred to as an LPT port.) *(Figure 4-9)*

External Monitor Port

The external monitor port allows you to connect an external VGA or SVGA monitor. Note that if a Port Replicator is attached, you must use the external monitor port on the Port Replicator. *(Figure 4-9)*

External Floppy Disk Drive Port

The external floppy disk drive port allows you to attach an optional external floppy disk drive. Note that if you are connecting a USB floppy disk drive, you must use the USB port on the system. *(Figure 4-9)*

LAN (RJ-45) Port

The LAN port allows you to connect a LAN to the Port Replicator. Note that when the system is attached to the Port Replicator, the LAN Port on the Port Replicator should be used, not the LAN Port on the system.

DC Power Jack

The DC power jack allows you to plug in the AC adapter to power your LifeBook and charge the internal Lithium ion battery.

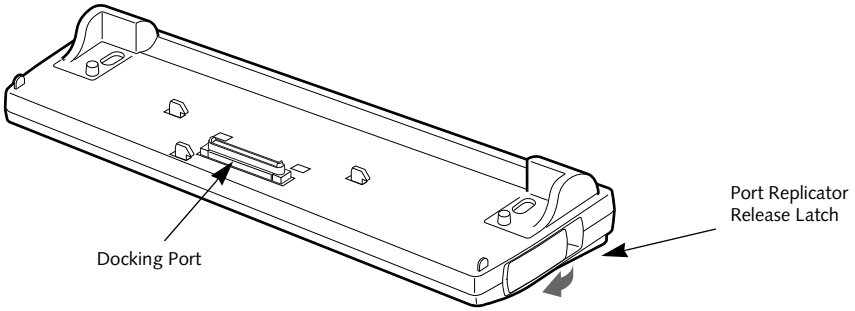


Figure 4-10 Port Replicator front panel

FRONT PANEL COMPONENTS

Following is a brief description of your Port Replicator's front panel components

Docking Port

The docking port connects the Port Replicator to your LifeBook. *(Figure 4-10)*

Port Replicator Release Latch

Pull the Port Replicator Release latch away from the Port Replicator to remove the Port Replicator from your LifeBook. *(Figure 4-10)*

ATTACHING THE PORT REPLICATOR

To attach the Port Replicator follow these easy steps:

1. Power off your LifeBook.
2. Align the Port Replicator connector on the bottom of your LifeBook with the connector on the Port Replicator and push together at the two corners. *(Figure 4-11)*

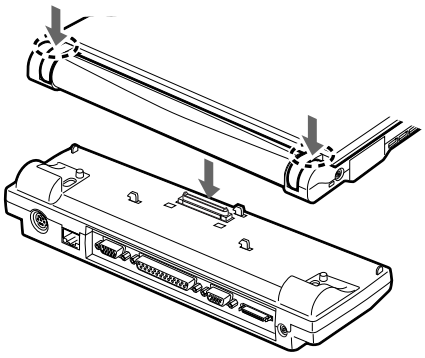


Figure 4-11 Attaching the Port Replicator

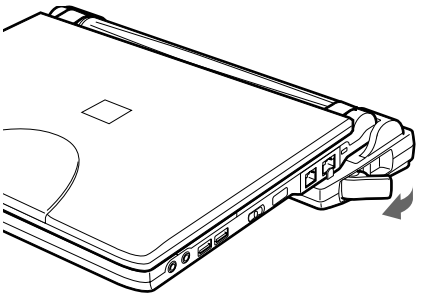


Figure 4-12 Unlatching the Port Replicator

DETACHING THE PORT REPLICATOR

To detach the Port Replicator follow these easy steps:

1. Power off your LifeBook.
2. Pull the Port Replicator's release latch away from the Port Replcator to release it from your LifeBook. *(Figure 4-12)*
3. Pull away the Port Replicator to detach it from your LifeBook. *(Figure 4-13)*

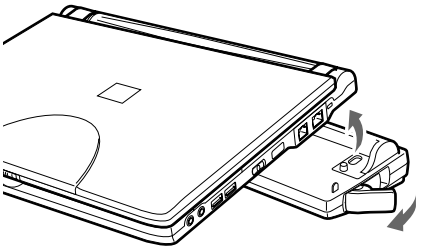


Figure 4-13 Removing the Port Replicator

Device Ports

Your LifeBook and Port Replicator come equipped with multiple ports to which you can connect an external device including: disk drives, keyboards, modems, printers, etc.

MODEM (RJ-11) TELEPHONE PORT

The modem (RJ-11) telephone port is used for an internal modem. To connect the telephone cable follow these easy steps: *(See figure 2-6 on page 10 for location)*

1. Align the connector with the port opening.
2. Push the connector into the port until it is seated.
3. Plug the other end of the telephone cable into a telephone outlet.

WARNING

The internal modem is not intended for use with Digital PBX systems. Do not connect the internal modem to a Digital PBX as it may cause serious damage to the internal modem or your entire LifeBook. Consult your PBX manufacturer's documentation for details. Some hotels have Digital PBX systems. Be sure to find out BEFORE you connect your modem.

CAUTIONS

- The internal modem is designed to the ITU-T V.90 standard. Its maximum speed of 53000bps is the highest allowed by FCC, and its actual connection rate depends on the line conditions. The maximum speed is 33600bps at upload.
- The internal modem on all LifeBooks from Fujitsu PC Corporation are certified for use in the United States and Canada.

INTERNAL LAN (RJ-45) PORT

The internal LAN (RJ-45) port is used for an internal Fast Ethernet (10/100 Base-T/Tx) connection. If your LifeBook has been configured with internal LAN capability you will need to configure your LifeBook to work with your particular network. (Please refer to your network administrator for information on your network configuration.) To connect the LAN cable follow these easy steps: *(See figure 2-6 on page 10 for location)*

POINT

Note that the Port Replicator is designed to cover the LAN port located on the system. This design ensures that the LAN port on the Port Replicator is the only one used when the Port Replicator is installed.

1. Align the connector with the port opening.
2. Push the connector into the port until it is seated.
3. Plug the other end of the cable into a LAN outlet.

PARALLEL PORT

The parallel port, or LPT port, located on the Port Replicator allows you to connect parallel devices, such as a printer to your LifeBook. In order to connect a parallel interface device follow these easy steps: *(See figure 4-9 on page 44 for location)*

1. Align the connector with the port opening.
2. Push the connector into the port until it is seated.
3. Tighten the two hold-down screws, located on each end of the connector.

SERIAL PORT

The serial port, or COMM port, located on the Port Replicator allows you to connect serial devices, such as printers or scanners. In order to connect a serial interface device follow these easy steps: *(See figure 4-9 on page 44 for location)*

1. Align the connector with the port opening.
2. Push the connector into the port until it is seated.
3. Tighten the two hold-down screws, located on each end of the connector.

PS/2 PORT

The PS/2 port located on the Port Replicator allows you to connect an external keyboard, and/or numeric keypad and mouse. In order to connect a PS/2 interface device follow these easy steps: *(See figure 4-9 on page 44 for location)*

1. Align the connector with the port opening.
2. Push the connector into the port until it is seated.

POINT

A mouse, keyboard, or keypad may be installed and automatically recognized by your LifeBook without restarting or changing setups.

POINT

The use of two PS/2 devices simultaneously from the port requires a PS/2 splitter.

DOCKING PORT

The docking port is used for the connection of your LifeBook to an optional port replicator or docking station. In order to connect your LifeBook to one of these devices follow the instructions that came with your docking port. *(See figure 2-8 on page 12 for location)*

EXTERNAL FLOPPY DISK DRIVE PORT

The external floppy disk drive port is used for attaching an optional external floppy disk drive. In order to connect an external floppy disk drive to your LifeBook follow the instructions that came with your external floppy disk drive. *(See figure 4-9 on page 44 for location)*

POINT

Although there is a USB port on the system that will accommodate a floppy disk drive, and a standard floppy disk drive connector on the Port Replicator, only one drive should be connected at any time.

UNIVERSAL SERIAL BUS PORT

The Universal Serial Bus port (USB) allows you to connect USB devices such as external game pads, pointing devices, keyboards and/or speakers. In order to connect a USB device follow these easy steps: *(See figure 2-7 on page 11 for location)*

1. Align the connector with the port opening.
2. Push the connector into the port until it is seated.

POINT

Due to the ongoing changes in USB technology and standards, not all USB devices and/or drivers are guaranteed to work.

INFRARED PORT

The Infrared IrDA 1.1 (4Mbps) port allows for wireless data transfer between your LifeBook and other IrDA-compatible devices, such as another computer or a printer, without the use of a cable. *(See figure 2-6 on page 10 for location)*

It is important to keep in mind that while carrying out this form of communication, both devices must be placed so their infrared ports are directly facing each other without obstruction. The devices must also be separated by at least 6" but no more than 36" for maximum performance.

The following conditions may interfere with infrared communications:

- A television, radio remote control unit, or a wireless headphone is being used nearby.
- Direct sunlight, fluorescent light, or incandescent light shines directly on the port.

CAUTION

Do not move either device while communication is active as it may interrupt data transmission.

CAUTION

Be careful not to scratch the infrared port lens. Scratches, dirt, or other surface marks can degrade operation.

POINT

With Windows 98 Second Edition, you can use the Infrared Recipient application for infrared file transfers. LapLink Professional software can also be used for infrared file transfers.

MICROPHONE JACK

The microphone jack allows you to connect an external mono microphone. Your microphone must be equipped with a 1/8"(3.5 mm) mono mini-plug in order to fit into the microphone jack of your LifeBook. In order to connect a microphone follow these easy steps: *(See figure 2-7 on page 11 for location)*

1. Align the connector with the port opening.
2. Push the connector into the port until it is seated.

HEADPHONE JACK

The headphone jack allows you to connect headphones or powered external speakers to your LifeBook. Your headphones or speakers must be equipped with a 1/8" (3.5 mm) stereo mini-plug. In order to connect headphones or speakers follow these easy steps: *(See figure 2-7 on page 11 for location)*

1. Align the connector with the port opening.
2. Push the connector into the port until it is seated.

POINT

If you plug headphones into the headphone jack, the built-in stereo speakers will be disabled.

EXTERNAL MONITOR PORT

The external monitor port allows you to connect an external VGA or SVGA monitor. In order to connect an external monitor follow these easy steps: *(See figure 2-7 on page 11 for location)*

1. Align the connector with the port opening.
2. Push the connector into the port until it is seated.
3. Tighten the two hold-down screws, located on each end of the connector.

CAUTION

Pressing the [Fn] + [F10] keys allows you to change your selection of where to send your display video. Each time you press the key combination, you will step to the next choice, starting with the built-in display panel only, moving to the external monitor only, finally moving to both the built-in display panel and an external monitor.

5 Troubleshooting

Troubleshooting

Your LifeBook is sturdy and subject to few problems in the field. However, you may encounter simple setup or operating problems that you can solve on the spot, or problems with peripheral devices, that you can solve by replacing the device. The information in this section helps you isolate and resolve some of these straightforward problems and identify failures that require service.

IDENTIFYING THE PROBLEM

If you encounter a problem, go through the following procedure before pursuing complex troubleshooting:

1. Turn off your LifeBook.
2. Make sure the AC adapter is plugged into your LifeBook and to an active AC power source.
3. Make sure that any card installed in the PC Card slot is seated properly. You can also remove the card from the slot, thus eliminating it as a possible cause of failure.
4. Make sure that any devices connected to the external connectors are plugged in properly. You can also disconnect such devices, thus eliminating them as possible causes of failure.
5. Turn on your LifeBook. Make sure it has been off at least 10 seconds before you turn it on.
6. Go through the boot sequence.
7. If the problem has not been resolved, refer to the Troubleshooting Table, that follows, for more detailed troubleshooting information.

POINT

If you keep notes about what you have tried, your support representative may be able to help you more quickly by giving additional suggestions over the phone.

CAUTION

Do not return a failed LifeBook to your supplier until you have talked to a support representative.

8. If you have tried the solutions suggested in the Troubleshooting Table without success, contact your support representative:

   Toll free: 1-800-8FUJITSU (1-800-838-5487)
   Fax: 1-901-259-5700
   E-mail: 8fujitsu@fujitsupc.com
   Web site: http://www.fujitsupc.com.

Before you place the call, you should have the following information ready so that the customer support representative can provide you with the fastest possible solution:

- Product name
- Product configuration number
- Product serial number
- Purchase date
- Conditions under which the problem occurred
- Any error messages that have occurred
- Hardware configuration
- Type of device connected, if any

See the Configuration Label on the bottom of your LifeBook for configuration and serial numbers. *(See figure 2-8 on page 12 for location)*

SPECIFIC PROBLEMS

Using PC-Doctor 2000 (with Windows 98 Second Edition only)

PC-Doctor 2000 is a diagnostic program by PC-Doctor.com, Inc. which comes pre-installed on your LifeBook. If you are an experienced computer user you may find it useful, however, it is intended primarily to help your Fujitsu support representative better serve you.

Using the Troubleshooting Table

When you have problems with your LifeBook, try to find the symptoms under the Problem column of the troubleshooting table for the feature giving you difficulty.

You will find a description of common causes for that symptom under the column Possible Cause and what, if anything, you can do to correct the condition under Possible Solutions. All possible causes or solutions may not apply to your LifeBook.

TROUBLESHOOTING TABLE

Problem	Page
Audio Problems	page 52
Docking Problems	page 52
Floppy Disk Drive Problems	page 52
Hard Drive Problems	page 53
Keyboard or Mouse Problems	page 53
Memory Problems	page 53
Modem Problems	page 54
Parallel, Serial and USB Device Problems	page 54
PC Card Problems	page 54
Power Failures	page 55
Shutdown and Startup Problems	page 57
Video Problems	page 58
Miscellaneous Problems	page 60

Problem	Possible Cause	Possible Solutions
Audio Problems		
There is no sound coming from the built-in speakers.	The volume is turned too low.	Adjust the volume control on your LifeBook.
	The software volume control is set too low.	Adjust the sound volume control settings in your software, operating system and applications.
	Headphones are plugged into your LifeBook.	Plugging in headphones disables the built-in speakers, remove the headphones.
	BIOS audio settings are incorrect.	Set the BIOS setup utility to the default values within the Multimedia Device Configuration menu. *See "BIOS Setup Utility" on page 29.*
	Software driver is not configured correctly.	Refer to your application and operating system documentation for help.
	Sound could have been muted with function keys.	Press [F3] while holding the [Fn] key to toggle the sound on and off.
Port Replicator Problems		
LifeBook does not turn on when installed in Port Replicator	Port Replicator AC adapter is not plugged in.	Provide power to the Port Replicator.
	LifeBook is not properly seated in the Port Replicator.	Remove and re-dock your LifeBook.
Floppy Disk Drive Problems		
You cannot access your floppy disk.	You tried to write to a write protected floppy disk.	Eject the floppy disk and set it to write enable. *See "Preparing a Disk for Use" on page 39.*
	Floppy disk is not loaded correctly.	Eject floppy disk, check orientation and re-insert. *See "Ejecting a Disk" on page 39.*
You cannot access your floppy disk. (continued)	BIOS setup utility states `Diskette Controller: Disabled.`	Revise the setup utility Main menu settings to enable Diskette Controller. *See "BIOS Setup Utility" on page 29.*
	The floppy disk drive may not be properly installed.	Remove and re-install your floppy disk drive.
	Security is set to protect access to floppy disk data.	Verify your password and security settings.

Problem	Possible Cause	Possible Solutions
Hard Drive Problems		
You cannot access your hard drive.	The setup utility is incorrectly set for your internal (Primary Master) or optional second hard drive (Primary Slave).	Revise BIOS settings to set both Primary Master and Primary Slave correctly. *See "BIOS Setup Utility" on page 29.*
	The wrong drive designator was used by an application when a bootable CD-ROM was used to start the LifeBook.	Verify drive designator used by application is in use by the operating system. When the operating system is booted from a CD, drive designations are automatically adjusted.
	Security is set so your operating system cannot be started without a password.	Verify your password and security settings.
Keyboard or Mouse Problems		
The built-in keyboard does not seem to work.	The LifeBook has gone into Suspend mode.	Push the **Suspend/Resume** button.
	Your application has locked out your keyboard.	Try to use your integrated pointing device to restart your system. If this fails, turn your LifeBook off using the power switch, wait 10 seconds or more, and then turn it back on.
You have installed an external keyboard or mouse, and it does not seem to work.	Your external device is not properly installed.	Re-install your device. *See "Device Ports" on page 46.*
	Your operating system software is not setup with the correct software driver for that device.	Check your device and operating system documentation and activate the proper driver.
	Your mouse or keyboard is connected to the wrong PS/2 port on the LANdock.	Plug the mouse into the PS/2 Mouse port and the external keyboard or numeric key pad into the PS/2 Keyboard port. *See "PS/2 Port" on page 46.*
You have connected an external keyboard or a mouse and it seems to be locking up the system.	Your operating system software is not setup with the correct software driver for that device.	Check your device and operating system documentation and activate the proper driver.
	Your system has crashed.	Try to restart your LifeBook. If that fails, turn off the power using the power switch, wait at least 10 seconds, and then power on.
Memory Problems		
Your Power On screen, or Main menu of the BIOS setup utility information, does not show the correct amount of installed memory.	Your memory upgrade module is not properly installed.	Remove and re-install your memory upgrade module. *See "Memory Upgrade Module" on page 42.*
	You have a memory failure.	Check for Power On Self Test (POST) messages. *See "Power On Self Test Messages" on page 61.*

Problem	Possible Cause	Possible Solutions
Modem Problems		
Messages about modem operation.	Messages about modem operation are generated by whichever modem application is in use.	See your application software documentation for additional information.
Parallel, Serial, and USB Device Problems		
You have installed a parallel port device, a serial port device or a USB device. Your LifeBook does not recognize the device, or the device does not seem to work properly.	The device is not properly installed.	Remove and re-install the device. *See "Device Ports" on page 46.*
	The device may have been installed while an application was running, so your LifeBook is not aware of its installation.	Close the application and restart your LifeBook.
	Your software may not have the correct software driver active.	See your software documentation and activate the correct driver.
	You may have the wrong I/O address selected for your device.	See your device documentation and software documentation to determine the required I/O address. Change the settings in the BIOS setup utility. *See "BIOS Setup Utility" on page 29.*
	Your device and another device are assigned the same I/O address.	Check all I/O addresses located within the BIOS setup utility and any other installed hardware or software to make sure there are no duplications.
	Parallel port is set to output only.	Check parallel port setting in the BIOS and set to bi-directional or ECP.
PC Card Problems		
A card inserted in the PC Card slot does not work or is locking up the system.	The card is not properly installed.	Remove and re-install the card. *See "PC Cards" on page 40.*
	The card may have been installed while an application was running, so your LifeBook is not aware of its installation.	Close the application and restart your LifeBook.
	Your software may not have the correct software driver active.	See your software documentation and activate the correct driver.
	You may have the wrong I/O address selected for your PC Card device.	See your PC Card documentation to determine the required I/O address. Change the settings in the BIOS. *See "BIOS Setup Utility" on page 29.*
	Your PC Card device and another device are assigned the same I/O address.	Check all I/O addresses located within the BIOS setup utility and any other installed hardware or software to make sure there are no duplications.

Problem	Possible Cause	Possible Solutions
Power Failures		
You turn on your LifeBook and nothing seems to happen.	The installed primary battery is completely discharged, there is no optional second battery installed or there is no Power adapter (AC or Auto/Airline) installed.	Check the Status Indicator Panel to determine the presence and condition of the batteries. See "Status Indicator Panel" on page 13. Install a charged battery or a Power adapter.
	The primary battery is installed but is faulty.	Use the Status Indicator Panel to verify the presence and condition of the batteries. See "Status Indicator Panel" on page 13. If a battery is indicating a short, remove that battery and operate from another power source or replace that battery.
	The battery or batteries are low.	Check the Status Indicator Panel to determine the presence and condition of the batteries. See "Status Indicator Panel" on page 13. Use a Power adapter to operate until a battery is charged or install a charged battery.
	The power adapter (AC or auto/airline) is not plugged in properly.	Verify that your adapter is connected correctly. *See "Power Sources" on page 27.*
You turn on your LifeBook and nothing seems to happen. (continued)	The Power adapter (AC or auto/airline) has no power from the AC outlet, airplane seat jack, or the car's cigarette lighter.	Move the AC cord to a different outlet, check for a line switch or tripped circuit breaker for the AC outlet. If you are using an auto/airline adapter in a car make sure the ignition switch is in the On or Accessories position.
	The Power adapter (AC or auto/airline) is faulty.	Try a different Power adapter or install a charged optional second battery.
	Power switch is not in the On position.	Slide your power switch firmly to the Off position, pause 10 seconds or more and then firmly to the On position.

Problem	Possible Cause	Possible Solutions
Your LifeBook turns off all by itself.	The power management parameters are set for auto timeouts which are too short for your operating needs.	Press any button on the keyboard, or move the mouse to restore operation. If that fails, push the Suspend/Resume button. Check your power management settings, or close your applications and go to the Power Savings menu of the setup utility to adjust the timeout values to better suit your operation needs.
	You are operating on battery power only and have ignored a low battery alarm until the batteries are all at the dead battery state and your machine has gone into Dead Battery Suspend mode.	Install a power adapter and then push the Suspend/Resume button. *See "Power Sources" on page 27.*
	You have a battery failure.	Verify the condition of the batteries using the Status Indicator panel, and replace or remove any batteries that are shorted. *See "Status Indicator Panel" on page 13.*
	Your power adapter has failed or lost its power source.	Make sure the adapter is plugged in and the outlet has power.
Your LifeBook will not work on battery alone.	The installed batteries are dead.	Replace the battery with a charged one or install a Power adapter.
	No batteries are installed.	Install a charged battery.
	The batteries are improperly installed.	Verify that the batteries are properly connected by re-installing them.
	Your installed batteries are faulty.	Verify the condition of the batteries using the Status Indicator panel and replace or remove any batteries that are shorted. *See "Status Indicator Panel" on page 13.*

Problem	Possible Cause	Possible Solutions
The batteries seem to discharge too quickly.	You are running an application that uses a great deal of power due to frequent hard drive access or CD-ROM access, use of a modem card or a LAN PC card.	Use both the primary battery and an optional second battery and/or use a power adapter for this application when at all possible.
	The power savings features may be disabled.	Check the power management and/or setup utility settings in the Power Savings menu and adjust according to your operating needs.
	The brightness is turned all the way up.	Turn down the brightness adjustment. The higher the brightness the more power your display uses.
	The batteries are very old.	Replace the batteries.
	The batteries have been exposed to high temperatures.	Replace the batteries.
	The batteries are too hot or too cold.	Restore the LifeBook to normal operating temperature. The Charging icon on the Status Indicator panel will flash when the battery is outside its operating range.
Shutdown and Startup Problems		
The Suspend/Resume button does not work.	The Suspend/Resume button is disabled from the Advanced submenu of the Power menu of the setup utility.	Enable the button from the setup utility.
	You did not hold the button in long enough.	Hold the button longer. This may need to be a few seconds if your application is preventing the CPU from checking for button pushes.
	There may be a conflict with the application software.	Close all applications and try the button again.
The system powers up, and displays power on information, but fails to load the operating system.	The boot sequence settings of the setup utility are not compatible with your configuration.	Set the operating source by pressing the [ESC] key while the Fujitsu logo is on screen or use the [F2] key and enter the setup utility and adjust the source settings from the Boot menu. *See "BIOS Setup Utility" on page 29.*
	You have a secured system requiring a password to load your operating system.	Make sure you have the right password. Enter the setup utility and verify the Security settings and modify them as accordingly. *See "BIOS Setup Utility" on page 29.*
The system powers up, and displays power on information, but fails to load the operating system. (continued)	Internal hard drive was not detected.	Use the BIOS setup utility or Primary Master submenu, located within the Main menu, to try to auto detect the internal hard drive.

Problem	Possible Cause	Possible Solutions
An error message is displayed on the screen during the LifeBook (boot) sequence.	Power On Self Test (POST) has detected a problem.	See the Power On Self Test (POST) messages to determine the meaning and severity of the problem. Not all messages are errors; some are simply status indicators. *See "Power On Self Test Messages" on page 61.*
Your system display won't turn on when the system is turned on or when the system has resumed.	The system may be password-protected.	Check the status indicator panel to verify that the Security icon is blinking. If it is blinking, enter your password.
Your LifeBook appears to change setup parameters when you start it.	BIOS setup changes were not saved when you made them and exited the BIOS setup utility returning it to previous settings.	Make sure you select **Save Changes And Exit** when exiting the BIOS setup utility.
	The BIOS CMOS back-up battery has failed.	Contact your support representative for repairs. This is not a user serviceable part but has a normal life of 3 to 5 years.
Video Problems		
The built-in display is blank when you turn on your LifeBook.	Something is pushing on the Closed Cover switch.	Clear the Closed Cover switch. *(See figure 2-5 on page 8 for location)*
	The LifeBook is set for an external monitor only.	Pressing [F10] while holding down the [FN] key allows you to change your selection of where to send your display video. Each time you press the combination of keys you will step to the next choice. The choices, in order are: built-in display only, external monitor only, both built-in display and external monitor.
	The angle of the display and the brightness settings are not adequate for your lighting conditions.	Move the display and the brightness control until you have adequate visibility.
	The power management time-outs may be set for very short intervals and you failed to notice the display come on and go off again.	Press any button the keyboard, or move the mouse to restore operation. If that fails, push the Suspend/ Resume button. (The display may be shut off by Standy mode, Auto Suspend or Video Timeout)
The LifeBook turned on with a series of beeps and your built-in display is blank.	Power On Self Test (POST) has detected a failure which does not allow the display to operate.	Contact your support representative.
Your system display won't turn on when the system is turned on or when the system has resumed.	The system may be password-protected.	Check the status indicator panel to verify that the Security icon is blinking. If it is blinking, enter your password.

Problem	Possible Cause	Possible Solutions
The display goes blank by itself after you have been using it.	The LifeBook has gone into Video Timeout, Standby Mode, Suspend Mode or Save-to-Disk Mode because you have not used it for a period of time.	Press any button on the keyboard, or move the mouse to restore operation. If that fails, push the Suspend/Resume button. Check your power management settings, or close your applications and go to the Power Savings menu of the setup utility to adjust the timeout values to better suit your operation needs. *See "BIOS Setup Utility" on page 29.*
	Something is pushing on the Closed Cover switch.	Check the Closed Cover switch. *(See figure 2-5 on page 8 for location)*
	The power management time-outs may be set for very short intervals and you failed to notice the display come on and go off again.	Press any button on the keyboard, or move the mouse to restore operation. If that fails, push the Suspend/ Resume button. (The display may be shut off by Standby Mode, Auto Suspend or Video Timeout)
The Built-in Display does not close.	A foreign object, such as a paper clip, is stuck between the display and the keyboard.	Remove all foreign objects from the keyboard.
The Built-in Display has bright or dark spots.	If the spots are very tiny and few in number, this is normal for a large LCD display.	This is normal; do nothing.
	If the spots are numerous or large enough to interfere with your operation needs.	Display is faulty; contact your support representative.
The application display uses only a portion of your screen and is surrounded by a dark frame.	You are running an application that does not support 800 x 600/1024 x 768 pixel resolution display and display compression is enabled.	Display compression gives a clearer but smaller display for applications that do not support 800 x 600/1024 x 768 pixel resolution. You can fill the screen but have less resolution by changing your display compression setting, (See the Video Features submenu, located within the Advanced menu of the BIOS. *See "BIOS Setup Utility" on page 29.*
The Display is dark when on battery power.	The BatteryAid default is set on low brightness to conserve power.	Press [FN] + [F7] to increase brightness or double-click on BatteryAid battery gauge and adjust Power Control under battery settings.
You have connected an external monitor and it does not display any information.	Your BIOS setup is not set to enable your external monitor.	Try toggling the video destination by pressing [FN] and [F10] together, or check your BIOS setup and enable your external monitor. (See the Video Features submenu, located within the Advanced Menu of the BIOS. *See "BIOS Setup Utility" on page 29.*
	Your external monitor is not properly installed.	Reinstall your device. *See "External Monitor Port" on page 47.*
	Your operating system software is not setup with the correct software driver for that device.	Check your device and operating system documentation and activate the proper driver.

Problem	Possible Cause	Possible Solutions
You have connected an external monitor and it does not come on.	Your external monitor is not compatible with your LifeBook.	See your monitor documentation and the External Monitor Support portions of the Specifications section. See “Specifications” on page 73.
Miscellaneous Problems		
An error message is displayed on the screen during the operation of an application.	Application software often has its own set of error message displays.	See your application manual and help displays screens for more information. Not all messages are errors some may simply be status.

POWER ON SELF TEST MESSAGES

The following is an alphabetic list of error-and-status messages that Phoenix BIOS and/or your operating system can generate and an explanation of each message. Error messages are marked with an *. If an error message is displayed that is not in this list, write it down and check your operating system documentation both on screen and in the manual. If you can find no reference
to the message and its meaning is not clear, contact your support representative for assistance.

nnnn Cache SRAM Passed
Where nnnn is the amount of system cache in kilobytes successfully tested by the Power On Self Test. (This can only appear if you have an SRAM PC Card installed.)

***Diskette drive A error or Diskette drive B error**
Drive A: or B: is present but fails the BIOS Power On Self Test diskette tests. Check to see that the drive is defined with the proper diskette type in the Setup Utility, See "BIOS Setup Utility" on page 29. and that the diskette drive is installed correctly. If the disk drive is properly defined and installed, avoid using it and contact your support representative.

***Extended RAM Failed at offset: nnnn**
Extended memory not working or not configured properly. If you have an installed memory upgrade module, verify that the module is properly installed. If it is properly installed, you may want to check your Windows Setup to be sure it is not using unavailable memory until you can contact your support representative.

nnnn Extended RAM Passed
Where nnnn is the amount of memory in kilobytes successfully tested.

***Failing Bits: nnnn The hex number nnnn**
This is a map of the bits at the memory address (in System, Extended, or Shadow memory) which failed the memory test. Each 1 (one) in the map indicates a failed bit. This is a serious fault that may cause you to lose data if you continue. Contact your support representative.

***Fixed Disk x Failure or Fixed Disk Controller Failure (where x = 1-4)**
The fixed disk is not working or not configured properly. This may mean that the hard drive type identified in your setup utility does not agree with the type detected by the Power On Self Test. Run the setup utility to check for the hard drive type settings and correct them if necessary. If the settings are OK and the message appears when you restart the system, there may be a serious fault which might cause you to lose data if you continue. Contact your support representative.

***Incorrect Drive A type – run SETUP**
Type of floppy drive A: not correctly identified in Setup. This means that the floppy disk drive type identified in your setup utility does not agree with the type detected by the Power On Self Test. Run the setup utility to correct the inconsistency.

***Incorrect Drive B type – run SETUP**
Type of floppy drive B: not correctly identified in Setup. This means that the floppy disk drive type identified in your setup utility does not agree with the type detected by the Power On Self Test. Run the setup utility to correct the inconsistency.

***Invalid NVRAM media type**
Problem with NVRAM access. In the unlikely case that you see this message you may have some display problems. You can continue operating but should contact your support representative for more information.

***Keyboard controller error**
The keyboard controller test failed. You may have to replace your keyboard or keyboard controller but may be able to use an external keyboard until then. Contact your support representative.

***Keyboard error**
Keyboard not working. You may have to replace your keyboard or keyboard controller but may be able to use an external keyboard until then. Contact your support representative.

***Keyboard error nn**
BIOS discovered a stuck key and displays the scan code for the stuck key. You may have to replace your keyboard but may be able to use an external keyboard until then. Contact your support representative.

***Monitor type does not match CMOS – Run SETUP**
Monitor type not correctly identified in Setup. This error probably means your BIOS is corrupted, run the setup utility and set all settings to the default conditions. If you still get this error, contact your support representative.

***Operating system not found**
Operating system cannot be located on either drive A: or drive C: Enter the setup utility and see if both the fixed disk, and drive A: are properly identified and that the boot sequence is set correctly. Unless you have changed your installation greatly, the operating system should be on drive C:. If the setup utility is correctly set, your hard drive may be corrupted and your system may have to be re-installed from your back up media.

***Parity Check 1 nnnn**
Parity error found in the system bus. BIOS attempts to locate the address and display it on the screen. If it

cannot locate the address, it displays????. This is a potentially data destroying failure. Contact your support representative.

***Parity Check 2 nnnn**
Parity error found in the I/O bus. BIOS attempts to locate the address and display it on the screen. If it cannot locate the address, it displays ????. This is a potentially data destroying failure. Contact your support representative.

***Press <F1> to resume, <F2> to SETUP**
Displayed after any recoverable error message. Press the [F1] key to continue the boot process or the [F2] key to enter Setup and change any settings.

***Previous boot incomplete – Default configuration used**
Previous Power On Self Test did not complete successfully. The Power On Self Test will load default values and offer to run Setup. If the previous failure was caused by incorrect values and they are not corrected, the next boot will likely fail also. If using the default settings does not allow you to complete a successful boot sequence, you should turn off the power with the Power Switch and contact your support representative.

***Real time clock error**
Real-time clock fails BIOS test. May require board repair. Contact your support representative.

***Shadow RAM Failed at offset: nnnn**
Shadow RAM failed at offset nnnn of the 64k block at which the error was detected. You are risking data corruption if you continue. Contact your support representative.

nnnn Shadow RAM Passed
Where nnnn is the amount of shadow RAM in kilobytes successfully tested.

***System battery is dead – Replace and run SETUP**
The BIOS CMOS RAM memory hold up battery is dead. This is part of your BIOS and is a board mounted battery which requires a support representative to change. You can continue operating but you will have to use setup utility default values or reconfigure your setup utility every time you turn off your LifeBook. This battery has an expected life of 2 to 3 years.

System BIOS shadowed
System BIOS copied to shadow RAM.

***System CMOS checksum bad – run SETUP**
BIOS CMOS RAM has been corrupted or modified incorrectly, perhaps by an application program that changes data stored in BIOS memory. Run Setup and reconfigure the system.

***System RAM Failed at offset: nnnn**
System memory failed at offset nnnn of in the 64k block at which the error was detected. This means that there is a fault in your built-in memory. If you continue to operate, you risk corrupting your data. Contact your support representative for repairs.

nnnn System RAM Passed
Where nnnn is the amount of system memory in kilobytes successfully tested.

***System timer error**
The timer test failed. The main clock that operates the computer is faulty. Requires repair of system board. Contact your support representative for repairs.

UMB upper limit segment address: nnnn
Displays the address of the upper limit of Upper Memory Blocks, indicating released segments of the BIOS memory which may be reclaimed by a virtual memory manager.

Video BIOS shadowed
Video BIOS successfully copied to shadow RAM.

MODEM RESULT CODES

The operating system and application software that is factory installed detects the modem characteristics and provides the necessary command strings to operate the modem. The internal modem operation is controlled by generic AT commands from the operating system and application software. The standard long form result codes may, in some cases, be displayed on your screen to keep you informed of the actions of your modem. The operating system and application software may suppress display of the result codes.

Examples of result codes are:

- OK
- NO CARRIER
- NO DIALTONE
- CONNECT 53000 (Connection complete at 53,000 bps.)
- ERROR
- FAX
- RING (This means an incoming call.)
- BUSY
- NO ANSWER

When using the internal modem with applications that are not factory installed refer to the application documentation.

Restoring Your Pre-installed Software

Your system has been loaded with a valuable utility that allows you to restore your LifeBook disk drive contents as they were originally shipped from the factory. Most often this is necessary if files or software programs (only those files/programs that came pre-installed) become corrupt or accidentally erased.

DRIVE IMAGE SPECIAL EDITION (DISE)

PowerQuest Drive Image Special Edition (DISE) provides a way to restore your computer if you experience a hard disk crash or other system failure. Fujitsu has used DISE to create an image of everything that was installed on the computer at the time you purchased it. The image is saved on a separate partition on the hard disk. You can use DISE to restore the factory image and return your computer to the state in which it shipped from Fujitsu.

Although it is not necessary, you can use DISE to store an *additional* image file that you create. For example, if you install several applications and save data files on your hard disk, you can create a new image file that includes them and then save that image file on the hard disk. Then, in the event of a hard disk failure, you can restore the image that includes the applications and data files you use.

Fujitsu recommends that you create a DISE disk as a "rescue disk." If your computer fails, you can boot and run DISE from the rescue disk.

POINT

Using the DISE feature will reduce the amount of usable disk space on your hard disk drive.

Creating Drive Image SE Diskettes

Note: *You can use a DISE disk to boot your machine and run DISE if your machine is unbootable or if you do not have access to Windows.*

Insert a formatted floppy disk in your machine.

From the Drive Image Special Edition main window, click **Options** > **Create Drive Image SE Diskette.**

Running DISE from Diskettes

1. Insert the Drive Image SE Disk 1 in the floppy drive.
2. Reboot your computer.
3. Insert Disk 2, type DISE, then press <Enter>.

Creating a Backup Image

You can create a backup image of your C:\ drive at any time. The C:\ partition must be a FAT, FAT32, or NTFS partition, and it must be directly before the backup partition on your hard disk.

1. At the Drive Image Special Edition main screen, click **Options**> **Create New Backup.**

   There is also a button on the main DISE screen that performs the same function.
2. You will be prompted to type a password. Type a password (or leave the password fields blank), then click **OK.** DISE displays a warning that it must go to DOS to create the image.
3. Click **Yes.**

   DISE creates an image file in the backup partition. If you created a backup image previously, the new image overwrites the old one.

Enlarging the Backup Partition

If there is not enough unused space in the backup partition on your hard disk, DISE will resize the partition. DISE will display the minimum, maximum, and recommended sizes for the backup partition. You choose the size you want.

DISE takes the space from the FAT, FAT32, or NTFS partition that you are backing up. If there is not enough unused space in that partition to take, you will not be able to resize the backup partition and create an image file. You can delete files from the FAT, FAT32, or NTFS partition to create more unused space on the hard disk.

Restoring a Backup Image

You can restore either a factory image or a backup image you created. Be aware that restoring a backup image will replace the contents of the C:\ partition with the image you restore.

1. Disable virus protection software in the BIOS. If virus protection software is enabled, DISE will hang.
2. From the DISE main window, click **Options** > **Restore Backup** to restore an image you created, or click **Options** > **Restore Factory Backup** to restore the factory image.

   DISE shuts down to DOS and restores the image file.

DRIVERS AND APPLICATIONS RESTORE CD

The Drivers and Application CD can be used to selectively re-install drivers and/or applications that may have been un-installed or corrupted. Please refer to installation instructions located in readme.txt file on the Drivers and Applications Restore CD.

POINT

Look for and open files with the extensions.DOC, .PDF and/or .TXT.

6
Care and Maintenance

Care and Maintenance

If you use your LifeBook carefully, you will increase its life and reliability. This section provides some tips for looking after the LifeBook and its devices.

CAUTION

Electrical equipment may be hazardous if misused. Operations of this product or similar products, must always be supervised by an adult. Do not allow children access to the interior of any electrical products and do not permit them to handle any cables.

LIFEBOOK

Caring for your LifeBook

- Your LifeBook is a durable but sensitive electronic device. Treat it with care.
- Make a habit of transporting it in a suitable carrying case.
- Do not attempt to service the computer yourself. Always follow installation instructions closely.
- Keep it away from food and beverages.
- If you accidentally spill liquid on your LifeBook:
  1. Turn it off.
  2. Position it so that the liquid can run out.
  3. Let it dry out for 24 hours, or longer if needed.
  4. If your LifeBook will not boot after it has dried out, call your support representative.
- Do not use your LifeBook in a wet environment (near a bathtub, swimming pool).
- Always use the AC adapter and batteries that are approved for your LifeBook.
- Avoid exposure to sand, dust and other environmental hazards.
- Do not expose your LifeBook to direct sunlight for long periods of time as temperatures above 140° F (60° C) may damage your LifeBook.
- Keep the covers closed on the connectors and slots when they are not in use.
- Do not put heavy or sharp objects on the computer.
- If you are carrying your LifeBook in a briefcase, or any other carrying case, make sure that there are no objects in the case pressing on the lid.
- Do not drop your LifeBook.
- Do not touch the screen with any sharp objects.

Cleaning your LifeBook

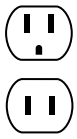
- Always disconnect the power plug. (Pull the plug, not the cord.)
- Clean your LifeBook with a damp, lint-free cloth. Do not use abrasives or solvents.
- Use a soft cloth to remove dust from the screen. Never use glass cleaners.

Storing your LifeBook

- If storing your LifeBook for a month or longer, turn your LifeBook off and remove all Lithium ion batteries.
- Store your LifeBook and batteries separately. If you store your LifeBook with a battery installed, the battery will discharge, and battery life will be reduced. In addition, a faulty battery might damage your LifeBook.
- Store your LifeBook in a cool, dry location. Temperatures should remain between -25°C (13°F) and 60°C (140°F).

Traveling with your LifeBook

- Do not transport your LifeBook while it is turned on.
- Do not check your LifeBook as baggage. Carry it with you.
- Never put your LifeBook through a metal detector. Have your LifeBook hand-inspected by security personnel. You can, however, put your LifeBook through a properly tuned X-ray machine. To avoid problems, place your LifeBook close to the entrance of the machine and remove it as soon as possible or have your LifeBook hand-inspected by security personnel. Security officials may require you to turn your LifeBook On. Make sure you have a charged battery on hand.
- When traveling with the hard drive removed, wrap the drive in a non-conducting materials (cloth or paper). If you have the drive checked by hand, be ready to install the drive if needed. Never put your hard drive through a metal detector. Have your hard drive hand-inspected by security personnel. You can however, put your hard drive through a properly tuned X-ray machine.
- Take the necessary plug adapters if you're traveling overseas. Check the following diagram to determine which plug adapter you'll need or ask your travel agent.

Outlet Type	Location
	United States, Canada, parts of Latin America, Japan, Korea, the Philippines, Taiwan
	Russia and the Commonwealth of Independent States (CIS), most of Europe, parts of Latin America, the Middle East, parts of Africa, Hong Kong, India, most of South Asia
	Mexico, United Kingdom, Ireland, Malaysia, Singapore, parts of Africa
	China, Australia, New Zealand

BATTERIES

Caring for your Batteries

- Always handle batteries carefully.
- Do not short-circuit the battery terminals (that is, do not touch both terminals with a metal object). Do not carry lose batteries in a pocket or purse where they may mix with coins, keys, or other metal objects. Doing so may cause an explosion or fire.
- Do not drop, puncture, disassemble, mutilate or incinerate the battery.
- Recharge batteries only as described in this manual and only in ventilated areas.
- Do not leave batteries in hot locations for more than a day or two. Intense heat can shorten battery life.
- Do not leave a battery in storage for longer than 6 months without recharging it.

Increasing Battery Life

- Power your LifeBook through the AC or optional auto/airline adapter whenever possible.
- If your LifeBook is running on battery power all day, connect it to the AC adapter overnight to recharge the battery.
- Keep brightness to the lowest level comfortable.
- Set the power management for maximum battery life.
- Put your LifeBook in Suspend mode when it is turned on and you are not actually using it.
- Limit your CD-ROM access.
- Disable the Windows CD auto insert function.
- Always use fully charged batteries.
- Eject PCMCIA cards when not in use.

FLOPPY DISKS AND DRIVES

Caring for your Floppy Disks

- Avoid using the floppy disks in damp and dusty locations.
- Never store a floppy disk near a magnet or magnetic field.
- Do not use a pencil or an eraser on a disk or disk label.
- Avoid storing the floppy disks in extremely hot or cold locations, or in locations subject to severe temperature changes. Store at temperatures between 50° F (10°C) and 125°F (52°C).
- Do not touch the exposed part of the disk behind the metal shutter.

Caring for your Floppy Disk Drive

- To clean, wipe the floppy disk drive clean with a dry soft cloth, or with a soft cloth dampened with water or a solution of neutral detergent. Never use benzene, paint thinner or other volatile material.
- Avoid storing the floppy disk drive in extremely hot or cold locations, or in locations subject to severe temperature changes. Store at temperatures between 50° F (10°C) and 125°F (52°C).
- Keep the floppy disk drive out of direct sunlight and away from heating equipment.
- Avoid storing the floppy disk drive in locations subject to shock and vibration.
- Never use the floppy disk drive with any liquid, metal, or other foreign matter inside the floppy disk drive or disk.
- Never disassemble or dismantle your floppy disk drive.

CDs

Caring for your CDs

CDs are precision devices and will function reliably if given reasonable care.

- Always store your CDs in its case when it is not in use.
- Always handle CDs by the edges and avoid touching the surface.
- Avoid storing any CDs in extreme temperatures.
- Do not bend CDs or set heavy objects on them.
- Do not spill liquids on CDs.
- Do not scratch CDs.
- Do not put a label on CDs.
- Do not get dust on CDs.
- Never write on the label surface with a ballpoint pen or pencil. Always use a felt pen.
- If a CD is subjected to a sudden change in temperature, cold to warm condensation may form on the surface. Wipe the moisture off with a clean, soft, lint free cloth and let it dry at room temperature. DO NOT use a hair dryer or heater to dry CDs.
- If a CD is dirty, use only a CD cleaner or wipe it with a clean, soft, lint free cloth starting from the inner edge and wiping to the outer edge.

Caring for your CD-ROM Drive

Your CD-ROM drive is durable but you must treat it with care. Please pay attention to the following points:

- The drive rotates the compact disk at a very high speed. Do not carry it around or subject it to shock or vibration with the power on.
- Avoid using or storing the drive where it will be exposed to extreme temperatures.
- Avoid using or storing the drive where it is damp or dusty.
- Avoid using or storing the drive near magnets or devices that generate strong magnetic fields.
- Avoid using or storing the drive where it will be subjected to shock or vibration.
- Do not disassemble or dismantle the CD-ROM drive.

PC CARDS

Caring for your PC Cards

PC Cards are durable, but you must treat them with care. The documentation supplied with your PC Card will provide specific information, but you should pay attention to the following points:

- To keep out dust and dirt, store PC Cards in their protective sleeves when they are not installed in your LifeBook.
- Avoid prolonged exposure to direct sunlight or excessive heat.
- Keep the cards dry.
- Do not flex or bend the cards, and do not place heavy objects on top of them.
- Do not force cards into the slot.
- Avoid dropping cards, or subjecting them to excessive vibration.

7
Specifications

Specifications

This section provides the hardware and environmental specifications for your Fujitsu LifeBook B Series. Specifications of particular configurations will vary.

CONFIGURATION LABEL

Your LifeBook contains a configuration label located on the bottom of your LifeBook. *(See figure 2-8 on page 12 for location)* This label contains specific information regarding the options you've chosen for your LifeBook. Following is an example label and information on how to read your own configuration label.

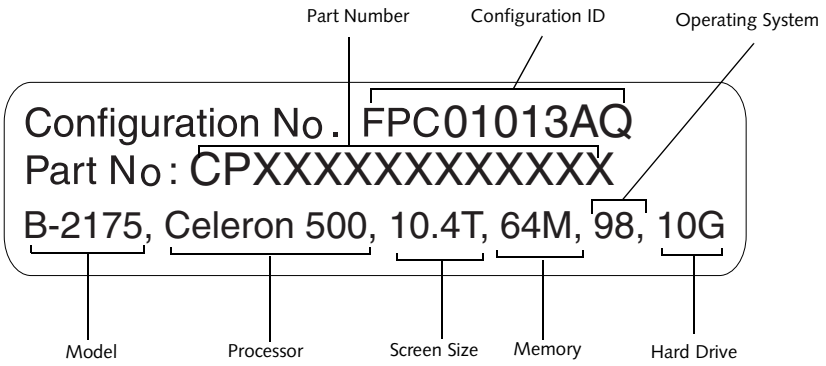


Figure 7-1 Configuration Label

MICROPROCESSOR

Intel Celeron 500 MHz low-voltage processor.

MEMORY

System Memory
64MB or 128MB SDRAM pre-installed, with 256MB SDRAM maximum

Cache Memory
128K On-die L2

BIOS Memory
512KB Flash ROM
256 Bytes CMOS RAM with back-up battery

VIDEO

Built-in color flat-panel TFT active matrix LCD display with simultaneous display capability.

Video Color and Resolution
10.4" SVGA TFT
- Internal: 800 x 600 pixel resolution, 256K colors.
- External: 1280 x 1024 pixel resolution, 256 colors. Simultaneous Video = Yes (800 x 600, 16 bit high color max) XGA, SVGA and VGA compatible.

Video RAM
4MB Embedded SDRAM.

AUDIO

- SoundBlaster Pro-compatible 32-bit stereo PCM/FM sound chip.
- Stereo headphone jack, 1 Vrms, or less, minimum impedance 32 Ohms.
- Mono microphone jack, 125 mVp-p or less, minimum impedance 10K Ohms.
- Two built-in speakers, 28 mm diameter (Stereo).
- One built-in monaural microphone.

MASS STORAGE DEVICE OPTIONS

Floppy Disk Drive
External USB 3.5" Floppy Disk Drive, which accommodates 1.44MB or 720KB floppy disks.

INTEGRATED POINTING DEVICE

Quick Point pointing device.

LIFEBOOK SECURITY/APPLICATION PANEL

Application Launcher buttons default to the following:

Label	Button Function	Default Application
1	Application A	Microsoft Works
2	Application B	Calculator
3	Internet	Internet Explorer
4	E-Mail	Netscape Messenger

THEFT PREVENTION LOCK

Lock slot for use with physical restraining security systems. The locking system by Kensington is recommended.

COMMUNICATIONS

Modem: Internal Multinational V.90 standard 56K fax/modem (ITU V.90, 56K data, 14.4K fax.), and
LAN: 10/100 base-Tx Ethernet.

* Actual data transfer rate over U.S. telephone lines varies and is less than 56Kbps due to the current FCC regulations and line conditions.

DEVICE PORTS

On the LifeBook:

- PC Card slot for two Type II or one Type III cards: PCMCIA Standard 2.1 with CardBus support
- One 15-pin D-SUB connector for VGA external monitor (see Display specifications)
- Two USB (Universal Serial Bus) connectors for input/output devices.
- One modular modem (RJ-11) connector.
- One LAN (RJ-45) connector.
- One stereo headphone jack. (See Audio specifications)
- One mono microphone jack. (See Audio specifications)
- One IrDA port for infrared devices.
- One 100-pin connector for docking devices.
- One embedded SmartCard Reader (requires an optional SmartCard adapter and a third-party application)

On the Port Replicator:

- One 6-pin mini DIN PS/2 compatible connector, for external keyboard, external mouse or external numeric keypad.
- One 15-pin D-SUB connector for VGA external monitor (see Display specifications).
- One 25-pin D-SUB connector for parallel input/output devices; Bi-directional, output only or ECP.
- One 9-pin D-SUB connector for RS-232C serial input/output devices.
- One 25-pin special connector for external floppy disk drive connection.
- One RJ-45 port for LAN connectivity

KEYBOARD

Built-in keyboard with all functions of 101 key PS/2 compatible keyboards.

- Total number of keys: 83.
- Function keys: F1 through F12.
- Feature extension key: Fn.
- Three Windows keys: two Start keys and one application key
- Key pitch: 17 mm.
- Key stroke: 2 mm.
- Built-in Quick Point pointing device with left and right buttons.
- Built-in Palm Rest.

External Keyboard Support
PS/2-compatible.

External Numeric Keypad Support
PS/2-compatible.

External Mouse Support
PS/2-compatible.

POWER

Batteries
One 3-cell Lithium ion battery, rechargeable, 10.8V, 1800mAh. (Two batteries are shipped with the system: One installed, and one spare.) An optional 6-cell, 10.8V, 3600mAh battery is also available.

Bridge Battery
Your LifeBook comes equipped with a bridge battery. A bridge battery allows a charged Lithium ion battery to be replaced without shutting down the system. The bridge battery capacity is not large and can vary with the condition or your LifeBook, so you will have three minutes at the most to make the change.

AC Adapter
Autosensing 100-240V AC, 40W, supplying 16V DC to the LifeBook, Fujitsu Model FPCAC16 which includes an AC cable.

Power Management
Conforms to ACPI (Advanced Configuration and Power Interface) standards.

DIMENSIONS AND WEIGHT

Overall Dimensions
Approximately 9.92"(w) x 8.54"(d) x 1.26"(h).

Weights
Approximately 2.95 lbs with 3-cell battery.
Approximately 3.61 lbs with Port Replicator and 3-cell battery.

ENVIRONMENTAL REQUIREMENTS

Temperature
Operating: 5° to 35° C (41° to 95° F).
Non-operating: –15° to 60° C (5° to 140° F).

Humidity
Operating: 20% to 85%, relative, non-condensing.
Non-operating; 8% to 85%, relative, non-condensing.

Altitude
Operating: 10,000 feet (3,048 m) maximum.

POPULAR ACCESSORIES

For ordering or additional information on Fujitsu accessories please visit our Web site at www.fujitsupc.com or call 1-800-733-0884.

Memory Upgrades

- 128MB SDRAM
- 256MB SDRAM

Docking/Expansions

- Additional Port Replicator
- Universal LAN Hub

Power

- 3-cell Lithium ion battery pack
- 6-cell Lithium ion battery pack
- Battery Charger
- Auto/Airline Adapter
- AC Adapter

Storage

- External CD-ROM drive

PC Cards

- Xircom® CreditCard™ Modem 56K GlobalACCESS™

Additional Accessories

- Wireless Keyboard and Mouse
- Numeric Keypad
- USB Camera
- Presentation Audio system
- TeleAdapt 16' TeleCord
- IBM Modem Saver
- Notebook Guardian Lock
- Stylus Five Pack
- Pointing Cap

Carrying Cases

- Duo Carrying Case
- Diplomat Carrying Case

PRE-INSTALLED SOFTWARE

Your LifeBook comes with pre-installed software for playing audio and video files of various formats. The software configuration installed is dependent upon the operating system that is pre-installed on your system. In addition, there is file transfer software, virus protection software and Power Management software.

LEARNING ABOUT YOUR APPLICATION SOFTWARE

Tutorials

All operating systems and most application software have tutorials built-into them upon installation. We highly recommend that you step through the tutorial before you use an application.

Manuals

Included with your LifeBook you will find manuals for your operating system and other pre-installed software. Manuals that are not included are available online through the help system of the software. We recommend that you review these manuals for general information on the use of these applications.

Microsoft Windows 98 Second Edition or 2000 Professional

Depending upon the configuration of your LifeBook, either Microsoft Windows 98 Second Edition or Microsoft Windows 2000 Professional is installed as your operating system.

PC Doctor 2000

PC Doctor® by PC-Doctor.com, Inc. is primarily for use by your support representative when assisting you with troubleshooting.

LapLink 2000

(with Windows 98 Second Edition Only)

LapLink® Professional by LapLink.com, Inc., allows you to transfer files directly to other computers via an internal modem, a PC Card modem, the infrared port, the USB port, or a serial or parallel cable (cables not included). *(See your LapLink online help for proper operating procedures)*

Microsoft Works

Microsoft Works is a suite of software containing the basic tools to write letters and reports, track family and friends address books, manage home finances, and create a home inventory.

McAfee.com, Inc. ActiveShield

ActiveShield, by McAfee, is an antivirus program that can be run after loading data or programs onto your notebook. It assists in protecting the data currently residing on your hard disk from contamination and destruction. *(See your ActiveShield online help or manual for more information on how and when to run this program)*

McAfee.com Clinic on-line coupon
Clinic, by McAfee.com, is a web-based antivirus program that can be run from the McAfee.com website after loading data or programs onto your LifeBook. It assists in the protection of the data currently residing on your hard disk from destruction or contamination. *(Go to http://www.mcafee.com for more information on how and when to run this program.)*

Drive Image Special Edition (DISE) by PowerQuest
DISE by PowerQuest provides a way to restore your computer if you experience a hard disk crash or other system failure. DISE is used to restore the factory image and restore the system to its original state.

BatteryAid by Fujitsu Limited
BatteryAid allows you to control the display brightness of your LifeBook in order to maximize battery life. *(See your BatteryAid online help for more information on the correct way to use this program)*

POINT
As your notebook does not support the CPU Clock control, the option is not active within the Power Control menu of BatteryAid.

Microsoft Internet Explorer
Internet Explorer is installed as your default internet browser.

Netscape Communicator by Netscape Communications Corporation
Netscape Explorer is installed as an alternative browser.

Adobe Acrobat Reader
The Adobe Acrobat Reader, located in the Service and Support Software folder, allows you to view, navigate, and print PDF files from across all of the major computing platforms.

LifeBook Security/Application Panel Software
Your LifeBook is pre-installed with software utilities that let you operate and configure your LifeBook Application Panel. These utilities are found under the Start menu, under Programs, then under LifeBook Application panel. They include a CD Player, Application Panel Setup, Application Panel Guide, Activate Panel and Deactivate Panel.

8 Glossary

Glossary

AC Adapter
A device which converts the AC voltage from a wall outlet to the DC voltage needed to power your LifeBook.

ACPI
Advanced Configuration and Power Interface

Active-Matrix Display
A type of technology for making flat-panel displays which has a transistor or similar device for every pixel on the screen.

APM
Advanced Power Management.

Auto/Airline Adapter
A device which converts the DC voltage from an automobile cigarette lighter or aircraft DC power outlet to the DC voltage needed to power your LifeBook.

BIOS
Basic Input-Output System. A program and set of default parameters stored in ROM which tests and operates your LifeBook when you turn it on until it loads your installed operating system from disk. Information from the BIOS is transferred to the installed operating system to provide it with information on the configuration and status of the hardware.

Bit
An abbreviation for binary digit. A single piece of information which is either a one (1) or a zero (0).

bps
An abbreviation for bits per second. Used to describe data transfer rates.

Boot
To start-up a computer and load its operating system from disk, ROM or other storage media into RAM.

Bus
An electrical circuit which passes data between the CPU and the sub-assemblies inside your LifeBook.

Byte
8 bits of parallel binary information.

Cache Memory
A block of memory built into the micro-processor which is much faster to access than your system RAM and used in specially structured ways to make your overall data handling time faster.

CardBus
A faster, 32-bit version of the PC Card interface which offers performance similar to the 32-bit PCI architecture.

CD-ROM
Compact disk read only memory. This is a form of digital data storage which is read optically with a laser rather than a magnetic head. A typical CD-ROM can contain about 600MB of data and is not suject to heads crashing into the surface and destroying the data when there is a failure nor to wear from reading.

CMOS RAM
Complementary metal oxide semiconductor random access memory. This is a technology for manufacturing random access memory which requires very low levels of power to operate.

COMM Port
Abbreviation for communication port. This is your serial interface connection.

Command
An instruction which you give your operating system. Example: run a particular application or format a floppy disk.

Configuration
The combination of hardware and software that makes up your system and how it is allocated for use.

CRT
Cathode Ray Tube. A display device which uses a beam of electronic particles striking a luminescent screen. It produces a visual image by varying the position and intensity of the beam.

Data
The information a system stores and processes.

DC
Direct current. A voltage or current that does not fluctuate periodically with time.

Default Value
A pre programmed value to be used if you fail to set your own.

DIMM
Dual-in-line memory module.

Disk
A spinning platter of magnetic data storage media. If the platter is very stiff it is a hard drive, if it is highly flexible it is a floppy disk, if it is a floppy disk in a hard housing with a shutter it is commonly called a diskette.

Disk Drive
The hardware which spins the disk and has the heads and control circuitry for reading and writing the data on the disk.

Diskette
A floppy disk in a hard housing with a shutter.

DMA
Direct Memory Access. Special circuitry for memory to memory transfers of data which do not require CPU action.

DMI
Desktop Management Interface. A standard that provides PC management applications with a common method of locally or remotely querying and configuring PC computer systems, hardware and software components, and peripherals.

DOS
Disk Operating System (MS-DOS is a Microsoft Disk Operating System).

Driver
A computer program which converts application and operating system commands to external devices into the exact form required by a specific brand and model of device in order to produce the desired results from that particular equipment.

ECP
Extended Capability Port. A set of standards for high speed data communication and interconnection between electronic devices.

ESD
Electro-Static Discharge. The sudden discharge of electricity from a static charge which has built-up slowly. Example: the shock you get from a doorknob on a dry day or the sparks you get from brushing hair on a dry day.

Extended Memory
All memory more than the 640KB recognized by MS-DOS as system memory.

FCC
Federal Communication Commission.

Floppy Disk
A spinning platter of magnetic data storage media which is highly flexible.

GB
Gigabyte.

Hard drive
A spinning platter of magnetic data storage media where the platter is very stiff.

Hexadecimal
A decimal notation for the value of a 4 bit binary number. (0-9, A, B, C, D, E, F) Example: 2F in hexadecimal = 00101111 in binary = 47 in decimal.

I/O
Input/Output. Data entering and leaving your LifeBook in electronic form.

I/O Port
The connector and associated control circuits for data entering and leaving your LifeBook in electronic form.

IDE
Intelligent Drive Electronics. A type of control interface for a hard drive which is inside the hard drive unit.

Infrared
Light just beyond the red portion of the visible light spectrum which is invisible to humans.

IR
An abbreviation for infrared.

IrDA
Infrared Data Association. An organization which produces standards for communication using infrared as the carrier.

IRQ
Interrupt Request. An acronym for the hardware signal to the CPU that an external event has occurred which needs to be processed.

KB
Kilobyte.

LAN
Local Area Network. An interconnection of computers and peripherals within a single limited geographic location which can pass programs and data amongst themselves.

LCD
Liquid Crystal Display. A type of display which makes images by controlling the orientation of crystals in a crystalline liquid.

Lithium ion Battery
A type of rechargeable battery which has a high power-time life for its size and is not subject to the memory effect as Nickel Cadmium batteries.

LPT Port
Line Printer Port. A way of referring to parallel interface ports because historically line printers were the first and latter the most common device connected to parallel ports.

MB
Megabyte.

Megahertz
1,000,000 cycles per second.

Memory
A repository for data and applications which is readily accessible to your LifeBook CPU.

MHz
Megahertz.

MIDI
Musical Instrument Digital Interface. A standard communication protocol for exchange of information between computers and sound producers such as synthesizers.

Modem
A contraction for MOdulator-DEModulator. The equipment which connects a computer or other data terminal to a communication line.

Monaural
A system using one channel to process sound from all sources.

MPU-401
A standard for MIDI interfaces and connectors.

NTSC
National TV Standards Commission. The standard for TV broadcast and reception for the USA.

Operating System
A group of control programs that convert application commands, including driver programs, into the exact form required by a specific brand and model of micro-processor in order to produce the desired results from that particular equipment.

Parallel Port
A connection to another device through which data is transferred as a block of bits simultaneously with a wire for each bit in the block and with other wires only for control of the device not for transfer of data.

Partition
A block of space on a hard drive which is set aside and made to appear to the operating system as if it were a separate disk, and addressed by the operating system accordingly.

PCMCIA
PCMCIA is a trademark of the Personal Computer Memory Card International Association. The Personal Computer Memory Card International Association is an organization that sets standards for add-in cards for personal computers.

Peripheral Device
A piece of equipment which performs a specific function associated with but not integral to a computer. Examples: a printer, a modem, a CD-ROM.

Pitch (keyboard)
The distance between the centers of the letter keys of a keyboard.

Pixel
The smallest element of a display, a dot of color on your display screen. The more pixels per area the clearer your image will appear.

POST
Power On Self Test. A program which is part of the BIOS which checks the configuration and operating condition of your hardware whenever power is applied to your LifeBook. Status and error messages may be displayed before the operating system is loaded. If the self test detects failures that are so serious that operation can not continue, the operating system will not be loaded.

Program
An integrated set of coded commands to your computers telling your hardware what to do and how and when to do it.

PS/2
An IBM series of personal computers which established a number of standards for connecting external devices such as keyboards and monitors.

RAM
Random Access Memory. A hardware component of your LifeBook that holds binary information (both program and data) as long as it has the proper power applied to it.

RAM Module
A printed circuit card with memory and associated circuitry which allows the user to add additional memory to the computer without special tools.

Reset
The act of reloading the operating system. A reset erases all information stored in RAM.

Restart
See Reset.

Resume
To proceed after interruption. In your LifeBook this refers to returning to active operation after having been in one of the suspension states.

ROM
Read Only Memory. A form of memory in which information is stored by physically altering the material. Data stored in this way can not be changed by your LifeBook and does not require power to maintain it.

SDRAM
Synchronous Dynamic Random Access Memory.

Serial Port
A connection to another device through which data is transferred one bit at a time on a single wire with any other wires only for control of the device not for transfer of data.

Shadow RAM
A technique of copying data or applications stored in ROM (Read Only Memory) into RAM (Random Access Memory) for access during actual operation. RAM is much faster to access than ROM, however ROM contents are not lost when power is removed. Shadowing allows permanently stored information to be rapidly accessed.

SMART
Self-Monitoring, Analysis and Reporting Technology (SMART) is an emerging technology that provides near-term failure predictions for hard drives. When SMART is enabled the hard drive monitors pre-determined drive attributes that are susceptible to degradation over time. If a failure is likely to occur, SMART makes a status report available so that the LifeBook can prompt the user to back up the data on the drive. Naturally not all failures are predictable. SMART predictability is limited to those attributes which the drive can self-monitor. In those cases where SMART can give advance warning, a considerable amount of precious data can be saved.

SRAM
Static random access memory. A specific technology of making RAM which does not require periodic data refreshing.

Status Indicator
A display which reports the condition of some portion of your hardware. On your LifeBook this is an LCD screen just above the keyboard.

Stereo (audio)
A system using two channels to process sound from two different sources.

Stroke (keyboard)
The amount of travel of a key when it is pressed from resting to fully depressed.

Suspend
To make inoperative for a period of time. Your LifeBook uses various suspension states to reduce power consumption and prolong the charge of your battery.

SVGA
Super VGA.

S-Video
Super Video. A component video system for driving a TV or computer monitor.

System Clock
An oscillator of fixed precise frequency which synchronizes the operation of the system and is counted to provide time of day and date.

TFT
Thin Film Transistor – A technology for flat display panels which uses a thin film matrix of transistors to control each pixel of the display screen individually.

UL
Underwriters Laboratories – An independent organization that tests and certifies the electrical safety of devices.

VGA
Video Graphics Array. A video display standard originally introduced by IBM with the PS/2 series of personal computers.

VRAM
Video Random Access Memory. A memory dedicated to video display data and control.

WFM
Wired for Management is Intel's broad-based initiative to reduce the total cost of ownership (TCO) of business computing without sacrificing power and flexibility.

Write Protect
Prevent alteration of the binary state of all bits in a storage media. Example: all information on a device such as a floppy diskette; a block of space in a storage media such as a partition of a hard drive; a file or directory of floppy diskette or hard drive.

XGA
Extended VGA.

Zip Drive
A 100MB read/write removable media disk drive.

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